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NEWS IN BRIEF

Scharansky seriously ill

COMPUTER scientist Anatoly Scharansky, jailed last year by the Soviet authorities because of his involvement with the group monitoring the Helsinki human rights agreement, is reported to be seriously ill. His mother, who travelled to a prison 500 miles from Moscow to see him for the first time in a year, said he was suffering from an illness that was affecting his eyesight.

At the time of his trial Computer Weekly readers joined with Professor Donald Michie of Edinburgh to send an appeal to the Soviet leaders asking for observers to be present. The request was not granted.

Meanwhile in Moscow, at the congress of the International Political Science Association there have been protests that Professor Alexander Lerner, a cybernetics specialist, has been barred from attending. He has been seeking permission to emigrate for six years.

Motorola move

MARC LASSOUS has left his job as managing director of Motorola Semiconductors UK, to join the new US-French semiconductor venture, Matra-Harris. His replacement at Motorola's Scotland headquarters is Wolf Loescher, from the company's Austin, Texas facility.

Store order

MARKS and Spencer has become the latest UK customer for Telecomputing's transaction processing monitor TPS.

Gene Amdahl to retire

AMDAHL CORP boss, Dr Gene Amdahl, is giving up his post as chairman of the board on September 1 and plans to retire from the company early in 1981. He said that his decision was entirely independent of the merger discussions between Amdahl and Memorex (CW, August 9).

Amdahl, who is 57, said that the move would allow him to continue to contribute to the technical and strategic activities of the company while permitting him to spend more time on his personal affairs.

After September 1 he will be chairman emeritus of Amdahl Corp and also chairman of a newly formed Technical Excellence Committee. Taking over the chairman's role is the present deputy chairman, Eugene White.

Meanwhile, Memorex chairman Robert

Wilson, who also hopes to retire soon, has written to all the company's employees about the merger talks, explaining that they are "exploratory" and that it could be several months before any conclusion. He believes the deal could be beneficial to Memorex employees and that he could recommend acceptance of the Amdahl offer to the Memorex board.

According to sources in the US the general feeling among Memorex employees at its Santa Clara, California, headquarters is favourable towards the deal.

In the UK, the managing director of Amdahl Ltd, Peter Williams, was not prepared to comment on any staff rationalisation that might be required here if the deal went through. This is a sensitive subject in view of the upheavals that took place when Memorex merged with Telex early last year.

Foreign threat to Prestel suppliers

FOREIGN suppliers could pose a serious threat to UK producers of Prestel receivers when a six-month moratorium on non-UK equipment ends next month and the system goes public.

One UK-based company, ITT Consumer Products, is in a strong position, having already received substantial pre-launch orders and, according to a company spokesman, is "well placed for the move into volume production of Prestel receivers in the autumn of next year."

However, the entry into the Prestel receiver market by non-UK firms like Sony, Mitsubishi, and National Panasonic is expected to be swift. Sony is expected to be demonstrating 14 inch and 18 inch Prestel receivers at the Professional Viewdata Exhibition to be held at the West Centre Hotel, London, on November 7 and 8.

Hoping to stimulate public interest in Prestel, the Post

Office had put together a £500,000 advertising campaign that was to be launched in September on TV and in national newspapers.

This has now been postponed until March 1980 as BREMA, the set manufacturers' trade association, reported that its members could not meet the expected demand. It will be at least another six months before production levels are high enough, it said.

On the question of whether or not foreign competitors were a clear threat to UK manufacturers because of the delay, a spokesman for BREMA said that it would be no more significant than the type of competition seen in the standard television market.

Also certain that the UK would not lose the lead in viewdata technology, a Post Office spokesman said: "There still is a great deal of interest in Prestel from overseas. I don't think we have lost any ground."

Despite the temporary loss of the advertising campaign, the Post Office is to go ahead with the public launch of Prestel by installing three new computer systems in London in September.

One, a master editing system for information providers, will be installed at the Clerkenwell exchange. The remaining two user systems will go to the Wood Green and Fleet exchanges.

By October, the plan is to extend the service outside London with retrieval systems at Birmingham, Edinburgh, Manchester and Groydon, followed later by Nottingham, Glasgow, Liverpool, Luton, Reading, Sevenoaks, and Brighton. At that time, about 50% of the UK telephone population will be catered for.

It will not be until mid-1980 that this figure will increase to 80% and the number of user access ports will stand at 70,000 business and about 200,000 residential.

Switch to a master distributor

ANOTHER US microcomputer manufacturer has changed from a fragmented UK distribution network to a master distributorship.

This time it is Alpha Microsystems of Irvine, California, and the new master distributor, Alpha Microsystems (UK), takes over for all Europe, including the UK.

Alpha in the UK is the brainchild of Leslie Burton, managing director of David Hicks International Management. Registered in November 1977, it was originally named Crown Shield, and had no previous track record in the computer business. It was formed by Burton as a marketing venture looking for a product.

Eventually the choice fell on Alpha Micro, very much a top end microcomputer, with typical configurations costing about £20,000. In June, Crown Shield signed an exclusive distributor agreement with Alpha Microsystems in the UK, and changed its name to that of its American supplier. It subsequently gained the European distributorship.

Currently there are some 30 distributors in Europe.

Waiting game on the 4300s

ALTHOUGH many US customers have been given delivery dates for the 4300 series machines they have ordered, and some have discovered they will have to wait over two years or more, that is not the whole story.

Two leasing companies, Greyhound and DPF, have been quoted in the Wall Street Journal that they ordered scores of machines but have been given delivery dates on only about 5% of them.

Declining to comment on the cases of Greyhound and DPF, IBM said that delivery dates were assigned through a randomisation procedure that was fair and equitable to all customers.

"Some orders were for several machines, and some of these customers have not yet received dates for all the systems they ordered. Precise delivery dates have not yet been formally published," the company added.

"It should be understood that any figures quoted could be misleading since some customers may not want their machines as soon as scheduled." The implications of IBM statements, which are in the context of the US market, appear to be that part of the "fair and equitable" process is to let only a handful of machines at the moment for customers place multiple orders, and that the dates are allocated to the remainder of such orders. It will be later than the last date.

Briefing Mostek/Inmos suit settled

THE law suit between the US company Mostek, and the National Enterprise Board's Inmos has been settled out of court. Mostek's action was aimed at preventing former employees, led by Inmos director Paul Schroeder, using its trade secrets with the NEB subsidiary.

An agreed settlement, which prevents Mostek from bringing further action, has effectively ended the suit in favour of Inmos.

Memories deal

IBM compatible add-on memory systems supplied by EM&M in Europe are now to be maintained by Memorex under an agreement between the two firms under which Memorex has also bought the European lease base of EM&M memories.

Piggyback snags

INDUSTRY sources say that Intel and Texas Instruments are having such difficulty in packaging 32K hybrid RAMS in the piggyback manner that IBM requires — two 16K chips — that IBM is to pay an extra \$1 to \$2 per part over the price of about \$5 it originally paid to pay for the 16 million parts.

99m Wang order

A SUBSTANTIAL vote of confidence in Wang's recently announced VSAVP Integrated Information System (WJ, June 7) has been made by the US State Department, which has ordered 34 machines, costing \$9 million, to be installed in embassies around the world.

16-bit mini launch

A NEW UK manufactured 16-bit mini-computer has been introduced by Intersect Computer Systems of Milsumer Norton, near Bath. Called the IS2000, it employs the ubiquitous AMD 700 bit slice bipolar chip set along with a microcoded instruction set. OEM prices start at £2,200 for a basic machine with 4K words of memory.

GPRS drops micros

THE role of the government's Task Force, the Central Policy Review Staff, as co-ordinator of research and investigation into a wide range of aspects of microelectronics, has been stopped. Each government department involved in such work will continue its efforts, with co-ordination carried out on the Whitehall "grapevine".

E German thrust

EAST GERMANY appears to be gearing up for a major thrust into microelectronics. It has a graphic equipment export of £10m in 1978, and is concentrating on semiconductor designs. One area where this could be developed is in the development of the IBM 4300 range. Full story in Micro News, page 11.

CAP director drowns in Fastnet disaster

AMONG those lost in the storm that engulfed the Fastnet race last week was David Sheehan, financial director of CAP-CPD and a founder of the original CAP company in 1982.

The Grampian, which he owned and skippered, was turned over by the sea. It is understood he had to unhook his safety line to surface and was swept away.

His son Matthew, and other crew members, were later picked

up by helicopter from life-rafts but one of them, Gerald Winks, died before they reached Culdroe airbase.

An account, Sheehan was first involved with data processing in 1955 when he was designing systems for various accountancy applications. Since the establishment of CAP he had guided the company's financial and legal affairs and he also took an active part in the development of the GCS.



David Sheehan

NEB puts £5m into US systems firm

THE activities of the National Enterprise Board in high technology have taken a turn towards immediate practical applications instead of long term strategies, with the setting up of a joint venture with QI Corp of New York to make and sell small office computers. The NEB will invest up to £5 million in the scheme, which is the first major venture for the Board since the arrival of Sir Keith Joseph's new board.

QI is a small, advanced-technology firm whose products include a highly compact and portable multifunction microcomputer combining twin floppy disc drives, a plasma display, a matrix printer, and a keyboard all in one typewriter-sized unit. It is intended for accounting, word processing, and scientific desk-top work; it has communications facilities and so can be used as a data entry terminal; and has a range of software of the type used by the IBM 5100.

The joint company will be set up in the UK by QI staff and will be half-owned by the NEB. It will aim to manufacture QI's products, market them in Europe, and develop them further, mainly on the software side. According to QI, a significant amount of this work is planned for the UK venture.

This will be quite separate from Nexos, the Board's office systems firm, and will not be part of the grand strategy to develop an integrated systems architecture for offices, but talks have been held with Nexos, which is interested and may co-operate in marketing the machines.

QI is already operating in Europe, out of Brussels, having done £750,000 worth of business there last year out of its total turnover of £1.5 million.

Based in Hauppauge, New York, QI has links with several other small, high-technology companies all producing advanced products which could well be combined into some attractive systems. The firm is already working on bubble memories, and other printers which would be more versatile and have fewer moving parts.

The 36,000 elected members of the Civil and Public Servants Assn. have accepted this offer. The new offer to supervisory staff is better to the extent that, instead of just some grades getting a 7% payment if the Post Office goes ahead with its plans to restructure job grades, it will now be paid to everyone.












End in sight to postal strike

STRIKE action by Post Office staff, which has disrupted computer operations and created a telephone billing backlog of almost £1,000 million, looks like ending following a return to work by clerical staff this week and an improved offer to supervisory staff, who include 125 computer personnel.

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	T 1012 flat tops flat tops normal keypunch modulator	\$111.00	\$1725
	T 1012 VG105s flat tops normal punch with LA11 interface	\$100.00	\$1650
	1434 Decimator IV	\$50.00	\$825
	1435 Decimator II	\$100.00	\$895
	14120 Decimator	\$102.00	\$1675
	VT100 video terminal	\$102.00	\$1095
	A-211 Acoustic Coupler	\$10.00	\$195
	21000		

Downtime

by Chad



If you are wondering why these ladies look so ecstatic, it is because they have just taken a ride in a microprocessor-controlled lift. What can the microprocessor have done to them, I hear you ask. Only what it can do to a car. By controlling the acceleration and deceleration of the car so that it is as smooth as a feather, the lift is able to take passengers to the top of the building in a matter of seconds. The ladies are so excited because they are the first to experience this new technology. The lift is a microprocessor-controlled lift, and it is a very exciting development in the field of microprocessors.

Priority commitment

YOU may remember my story (March 1) about the campaign to save the Lyceum Club in Liverpool in order to keep up local amenities so that microelectronics firms will come to the area. Now I am happy to report not one but two victories for those aiming to make Liverpool a Home Fit for the Heroes of the computer revolution.

Not only has the Lyceum been saved, by the personal intervention of the Environment Secretary, but Birkenhead Priory has

been classified as an ancient monument, qualifying it for permanent custodian and government grants.

The Priory is a 12th century ruin in the middle of Birkenhead docks. So, if you get a job with GEC-Falchild at nearby Neston, you will be able to pop over in your lunch hour for some restful meditation, accompanied by clanking cranes, rumbling lorries, and distant foghorns. I shouldn't be surprised if you were inspired to start writing code in rhyming couplets.

QL, QI, Q1 or qhat?

NEB watchers among you will have been puzzled by the stories in the daily papers about the Bond's latest hand-in-glove venture. In the Daily Telegraph the US company is called QL, in the Guardian it is QI, and in the Financial Times it is Q1.

The FT was, true to form, right. I expect to see the National Graphical Association picketing the company, with placards saying "Unfair to composers," but I fear they will be hucking the tide. Ridiculous company names are springing up everywhere, usually unpronounceable like QYX.

I THINK I can provide an explanation for one of the hoo-bess in this week's 1984 place (page 2). Remembering the main ingredient in advanced lubricants, I presume that what the musical scribe meant was a slither of silicone.

LETTERS TO THE EDITOR

Attention all OEM manufacturers

AS computer service manager of a large group of companies, I find it necessary to contact manufacturers of equipment quite frequently. Accepting that there are acute staff shortages in the industry, I still find it difficult to accept the normal pattern of my business calls, and draw to the attention of the managing directors of OEMs the following criticisms.

1. The telephone number listed for your company in various trade and technical publications is almost guaranteed to be the wrong one.

2. Upon ringing the correct number with a sales query, your switchboard operator will in most cases direct the call to the wrong person.

3. When ringing with a general query about one of your

company's products, there are usually no technical sales people in the office at that time. A secretary (often in her own words "only a temp") usually manages to completely misconstrue my inquiry with a result that the wrong person returns my call.

4. Of phone calls made between 12.00 and 2.30pm, 95% result in the person who deals with my area/problem type of company being at lunch.

5. Many of your sales team are newly recruited and seem to be totally unfamiliar with the products they are selling, far less with performance vis-à-vis competitors' products.

6. Uninitiated sales calls from young ladies obviously reading from a prepared cue-card are all very well providing that the

poor DP manager doesn't actually ask any technical questions in reply. This tends to cause waves of panic followed by irritation from the caller. (Incidentally, I find that some of the computer press tend to employ these people, usually trying to get last week's advertiser in "Magazine X" to advertise this week in their magazine, even although the response to the initial advert has not yet been assessed).

In short: MDs, man your offices at all times with competent personnel. Yours is a highly competitive field and it could have been your company that I telephoned three times last month with a view to placing an order of over £20,000 and could not find a suitably qualified person to deal with. That order is now placed with one of your competitors, who had someone in the office who was able to help.

ERIC DIXEY

London

Cloak for extremists

AS the former, and founder, secretary of the Institute of Data Processing, I was delighted to read in Computerweekly (CW, August 2), of its current progress under the IDPM banner, and justifiably gratified at your unsolicited testimonial to the "digital image" of IDP.

Unfortunately, on the same page you had a focus article on an IDP meeting addressed by a representative of the National Council for Civil Liberties on the subject of privacy.

I can think of nothing more calculated to undermine the digital image of a professional body than to link its activities with those of an organisation whose apparently innocuous title appears on frequent occasions to be merely a cloak for extremist left-wing anti-establishment activities.

DEREK BRADLEY

Croydon, Surrey

Cluff and the IDPM

I REFER to your heading, "Move to make Cluff's IDPM job full-time" (CW, July 26). Also in Computerweekly (CW, August 2), and the report of our annual meeting in the same issue headed "IDPM wants 12 top firms to sponsor a full-time secretary-general."

The Institute is, of course, appreciative of the interest taken by Computer Weekly and recognises the advantages of your coverage. Nevertheless, some wrong impressions have been given which are to the disadvantage of our existing part-time secretary-general, Ted Cluff.

By the very nature of our organisation, we always plan well ahead and decisions are made when facts are available on which to base those decisions. We do not react to situations as and when they occur, because this is the antithesis of proper planning and good management.

Flexible working and Pascal

I AM following Dr Bishop's series, introduction to Pascal, with interest, but hope that at some stage she will point out that her example of a program for flexible working hours is not a practical one (Part 5, CW, July 26).

Employees working flexibly need to see their current time situations vis-à-vis the time they ought to have to put in, in order to plan their day-by-day attendance and activities. Their colleagues and management need an indication of their presence or absence, and management needs a situation report at the end of each accounting period to ascertain that each employee has fulfilled his or her contractual obligations.

There are a number of equipment manufacturers, including ourselves, offering simple mechanical, electrical and electronic solutions to the problems of providing the right information for flexible working hours.

I appreciate that Dr Bishop's series is as yet unfinished but so far her system does not seem capable of providing either current time or presence information, and even so the hardware costs would seem to be far higher than those of most of the proprietary systems.

In conclusion I feel that Dr Bishop has made the case for adopting a computerized system which has little or nothing to do with flexible working hours.

G. REINELT

Hewlett-Packard Ltd, Waltham Cross, Hertts.

THE EDITOR welcomes letters commenting on subjects published in Computer Weekly, or on original topics. All letters must be accompanied by the writer's name and address, and necessarily for publication.

We may beat IBM to the punch on H-series—AMDAHL

IF IBM delays the announcement of the H-series much further, AMDahl may force the company's hand by launching its own next generation of mainframes first.

So says Dr Gene AMDahl in the first full interview he has given since announcing his retirement as chairman last week.

"We are just waiting for the H-series to come out. We want our opportunity to respond. And if it doesn't come out pretty soon, maybe we'll decide to beat them to the punch."

There are growing feelings that the H-series will be very much less of a blockbuster than originally expected, with the first two models little more than an enhanced and a stripped down version of the 3033 respectively, offering better price-performance.

AMDahl's views seem to reflect this belief. "I think IBM will move things around within a system, but they will introduce as little real change as they have to. IBM's principal way of fighting will have to be to get more and more complexity, and to have any changes cloaked in as much mystery as possible."

"In order to be ahead of IBM during the next generation you have to do things in a more efficient way than IBM does. That may sound impossible, but new invention is the key. Innovation has more to offer than enormous human resources because just to do

something in a highly economical efficient manner requires that everything be interrelated in a very small number of minds. Preferably one."

AMDahl's big machines are air-cooled, whereas IBM's 3033, 3032 and 370/168 are all water-cooled. AMDahl expects no change.

"IBM has educated its customers to believe that water cooling is the wave of the future, that it's better than air cooling. Clearly it is if you can't cool your machine by air! But there's no technical reason for it. I expect IBM to continue water cooling for the foreseeable future, at least for the next decade, and probably to the end of the century."

Looking back AMDahl believes the achievements and the impact of his company have been underestimated, both by customers and by stock analysts.

"The customer may not remember that prices were being raised at the time we arrived. They were raised for almost the first six months we were on the scene. It wasn't until we were a phenomenon to be taken quite seriously that prices no longer rose. It wasn't until we were taken very seriously that they dropped again. Until then, IBM had no

"But these problems have a narrow impact. We see it in the stock price but not among customers, and not at the bank."

Aa for his own future, AMDahl rejects the idea of teaching, saying he is not the professorial type.

"I intend to be working on future generations of computers and I'll continue doing that for the rest of my life."

"I intend to work in support of AMDahl Corp's response to the H, and anything which might precede it. Other than the direct things I do for the company, the other things I do will be independent."

'Design of workplace key to ending VDU strain'

THE importance of design and installation factors of VDUs, such as layout, character size, and ambient lighting, as opposed to inherent dangers to eyesight, is emphasised in what promises to be a definitive report on VDU workplaces, just published by IFRA, the International Research Association for Newspaper Technology.

The authors are Ahmet Cakir, a lighting technologist from the Technical University of Berlin, David Hart, research director of IFRA, and Tom Stewart, an ergonomist currently with Buller Cox and Partners.

They believe that VDUs should not cause eye strain or fatigue if all the factors — such as radiation levels from the screen, character construction, positioning of the screen, keyboard, source copy, chair and the surrounding light — are all properly controlled.

The 321 page report goes into all these issues in exhaustive detail, devoting chapters to the technology of VDUs, the physics and physiology of vision, ergonomic requirements for VDUs and for their workplaces, and health and safety matters.

A few pages are devoted to psychological issues such as mental workload, job satisfaction, alienation and machine control, time pressure and the need for rest.

The report emphasises the need to consider all these latter factors but comes up with few

surprises in the form of new ways of dealing with them. Detailed checklists are provided for analysing all the factors involved in purchasing VDUs and setting up workplaces. Diagrams of recommended layouts are provided, together with examples of bad arrangements that are commonly found.

Although aimed at newspaper applications, the report is careful to keep its recommendations general enough for any computer installation.

The report entitled "The VDU manual," costs 40 Deutschmarks (about £10) plus postage and is available from: D. J. Hart, Inc.-File Research Association, Washingtonplatz 1,

D-6100, Darmstadt, West Germany.

At the same time, a study entitled "CRT graphics terminals and systems markets 1978-1983" has been published by Venture Development Corp of Wellesley, Massachusetts, which predicts that this market will grow from \$275 million in 1978 to \$1.1 billion in 1983.

VDU emphasises the growing importance of the fact that VDU users are no longer computer professionals in the main, but designers, draftsmen, technicians, artists and managers are increasingly using screens, and increasingly are the people who choose what equipment to buy. A wide range of new markets for screens is listed.

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MICHIE'S PRIVATEVIEW

Computer detection of literary fraud



THERE are certain specialist topics on which everyone feels entitled to express confident opinions. Economics is such a field. Another Aunt Sally for Everyman is the craft of spotting literary forgeries.

In days of yore, linguistic and literary pundits did what they could with naked eye and intellect. But embarrassing episodes have repeatedly called this method into question. An imitation of Cleland, author of the 18th century pornographic masterpiece *Fanny Hill*, was stated by the literary critics of *The Times* and *Guardian* as totally unconvincing. The author replied that his text contained substantial passages lifted directly from Cleland, a fact which the critics had failed to spot.

"Computer stylometry" is the statistical analysis of the vocabulary and structural features of disputed text, and it has breathed much-needed fresh air into the dusty realms of scholarship.

Much excellent work was earlier done by hand, notably by C.W. Woke. But the Rev A. Q. Morton's new book (CW August 9) calls the roll on achievements of a new era. The author reviews computer-based work on classical texts (notably Plato), biblical writings (St. Paul and the Evangelists), and some other authors. It also provides a handbook of potted methodology for the beginner, with useful data on the kinds of words, combinations of words, and positions of words in sentences, which tend to curvy the tell-tale clues.

Some of the statistical expositions would be better sought from standard elementary texts.

But the rest is pure gold. Once OCR equipment of reasonable accuracy and cost becomes generally available I can even see a hobby boom among home computer enthusiasts.

The authenticity of documents is not solely of importance in the study of literature. To the historian and the lawyer, questions of forgery also loom large.

A dramatic case has recently been resolved by S. Michaelson, A. Q. Morton and M. Hamilton. In the early 1950s one of the candidates proposed by the Swedish Church for gubernatorial appointment to a Bishopric was assailed in a stream of defamatory anonymous letters. As a result, this candidate was struck off the list. The successful candidate, Helander, was then accused by the poison-pen victim of having written the letters to promote his own chances of appointment. Helander was accordingly unfrocked.

Helander immediately appended to a five-man tribunal of linguistic experts. Two said in stylistic grounds that Helander was the author, and three said no. Of the latter three, one noted that the letters were of multiple authorship. The appeal was disallowed and there the matter rested.

In 1977 Professor Sidney Michaelson and co-workers began a computer analysis of the letters together with samples of Helander's own writings. Analysis was primarily based on frequencies of word-pairs, and on the use of certain words to start and finish sentences. The statistical evidence was overwhelming that Helander was not the author. Further it became clear that authorship was indeed multiple.

Tragically, while these findings were still in preparation for publication, Helander was last year killed in a road accident. Shortly before his death he had received the news of the Edinburgh results. So he died in the expectation that he would be publicly vindicated.

Vindication does not always follow from overwhelming proof. A letter supposedly by St Paul was found by the early Christian church to be extremely useful in combating the influence of the Gnostic sect. The forger confessed, but some sections of the church continued to treat the letter as authentic — in defiance of universal knowledge that Gnosticism anyway arose after Paul's death. Hence an anti-Gnostic broadside could hardly have been written by Paul.

As a university student of classical literature influenced by war-time experience of electronic text-processing, I myself attempted a punch-card analysis of certain metrical features of the Latin poet Virgil. Lacking the funds to buy edge-punched cards, I discovered that I also lacked the physical strength needed to hand-operate my massive and unresponsive home-made punch. In the era initiated by Wake, and now opened wider by computer methods, my youthful dream may only be fulfilled! Professor Michaelson tells me that next year he expects to start on Virgilian texts.

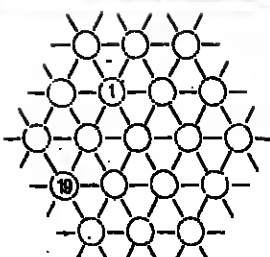
By bringing some of the blurred landscape of the humanities into focus for those who wish to see it plain, Morton and his collaborators are doing a service of outstanding importance. I strongly recommend this book.

Donald Michie

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Puzzler



NINETEEN diaca can be arranged hexagonally to give a 3x3 grid of three, six, nine, and three lines-of-five, as shown here. This week's problem is to number the discs from 1 to 19, in such a way that each of the 15 lines adds up to 38.

Numbers 1 and 19 have been inserted to give you a start. See page 37 for solution.

SOFTWARE FILE

End-user system for small machines

THE prospect of programmer-less application development on small machines from BIK up has been opened by the development of a portable information management system by a New York software house.

Called Simile, the system includes a high level non-procedural language, database management, as well as query and reporting facilities. It is seen by its developer, Small Business Machines, as giving small system users much the same facilities as Nomad or Mark IV on mainframes.

The software was originally implemented for the DEC LSI-11. It is now supported on the whole range of DEC equipment and on Data General, Honeywell and Hewlett-Packard machines.

A version for the IBM System 34 is planned by the end of the year.

Simile is written in Fortran IV and looks to the operating system like a suite of application programs. It uses standard operating system facilities for such things as security and file handling.

On top of these, it adds its own logic for tasks such as data entry and database management. Databases are organised as flat files with multiple indices which can be built up into quite complex hierarchical or relational systems.

Because it depends on the operating system, some of the characteristics of the system are determined by the environment in which it is running.

For example, under RT/11 Simile is basically a single-user system. On larger Data General systems, it can support several simultaneous users who can

share a single, re-entrant copy of the programs.

Small Business Machines first released the software last September and it is currently in use at around 60 sites.

Though it will also supply the system directly, its main customers are OEMs and system houses and it is looking in the

longer term at distributing chiefly through office products suppliers.

The company expects to appoint a UK agent or distributor in the first quarter of next year and is likely to sell the software at much the same price as in the US, viz \$8,500 to the end user.

Available for in-house use

SCIENTIFIC Time Shoring Corp., which operates the APL/Plus time sharing service, has announced that its manufacturing control system CMCS will be available for purchase along with APL/Plus for companies wanting to run the application in-house. APL/Plus, together with the application, will run on any IBM 370 machine or compatible computer.

A new node has been established by STSC in Düsseldorf, West Germany, permitting users to access the service at local call charges. Customers in Düsseldorf previously gained access via Tymnet.

More processing options available for PL/I users

TWO products opening up new possibilities for IBM PL/I users have been released by Business Simulations Ltd, of Spelthorpe, Kent. One is an internal sort/merge facility, the other a PL/I report generator.

The sort/merge package, PLISort, replaces the standard IBM sort/merge interface with two new PL/I verbs: SORT and MERGE — that are translated by a preprocessor.

In addition to extending the processing options, the package simplifies the program interface by allowing the sort specification to be expressed in PL/I terms. For example, sort keys are given as field names rather than as starting character position and field length.

It also makes it possible for one program to undertake several sorts in succession, which with the standard interface is difficult, with extra work files generally needed; or impossible, when sorting from an input file to several output files.

Business Simulations' Report Generator is said to be facilities superior to those of And Control Report Writer. It provides a number of new PL/I statements, implemented via PL/I compile-time facilities or, when these are not available, via a separate preprocessor.

Among the generator commands are INITIATE, TERMINATE, and TERMINATE, together with LEADING, TRAILING, and TOTAL.

Do you really know why you want to change your job?

PROGRAMMER NOTES

growing, and largely unmanageable, sense of disorientation.

"I was working as a programmer for a variable company. The job was steady and well paid, there was a well-defined promotional path, generous benefits, and good working conditions. In fact, I had a good job which I enjoyed."

"As the days passed, I seemed to spend more and more time looking at the recruitment ads, speculating on the likelihood of my getting a job like that. However, when I finally decided to take the plunge and move, it was not to those ads that I replied."

"Doubting that I was indeed the 'Megastar' they were all looking for, I answered a lot of the more down-to-earth ads which called for people with about the same experience I already had."

"And I went for a lot of interviews. And I was offered a fair number of jobs, but none of them seemed to be the answer."

"The trouble was that I didn't really know why I wanted to change jobs and I consequently didn't know what I wanted from the new one. Offers came in of nice salaries, nice offices, nice people, but for some reason I did not want them."

Southall I found out why. "I was interviewed initially by a System Analyst by the husband and wife team who ran the company. And during the interview, I realised what it was that I was seeking."

"I needed to learn, to progress myself and in take my career a step ahead. Nobody talked about promotion, or offered me titles which I could aspire to. In fact, when I asked what my title would be, they looked at each other blankly and said the nobody really had titles."

"They were equally blank about the job description, merely telling me that I would join the team and would be expected to muscle in and do whatever needed doing. And I took the job."

"Of course, the job is not perfect; no job is. But I have not been put into a box with rigid parameters which govern my actions. I can do what I want, I frequently asked to do things I have never done before, and I have never done anything exciting and challenging. For me at the moment, this is the way I am enjoying learning, constantly stretching my horizons a little further."

"One day, maybe, I shall have learned everything. System Analyst has to teach me and I shall have to be the 'new guy' who will not be to the 'way out' that I will reply. It will be to find another job which is a good one of stimulation. After all, this job is a boring job. And I am a Fiddler not a Dave."

Then, one afternoon in

Apple II, ITT 2020 packs

A FULL set of business packages for the Apple II or ITT 2020 has been launched by accounting specialists Computech Systems. Including payroll, stock control, sales, purchase, and nominal ledger, the applications run on 32K byte systems with one or more disc drives.

PROGRAMMER productivity at Johnson and Johnson, the medical products manufacturer, is now being evaluated using a Raytheon PDS 100 terminal system supplied by Data Logic. The PDS 100 has four screens and a controller and is linked to an IBM 3270 emulation mode to an IBM 3270/125 which runs CICS and IBM's Libl online librarian package for the evaluations.

ASI has added a video-assisted course in logical database design to its Advanced Information Technology Curriculum. The course, "Data Base: constructing a logical design," is a companion to the five-module series: "Data Base: deriving logical data relations".

CADIZ, the entry-level TP monitor launched by Zeus-Hermes last year (Software File, February 23, 1978) has been ordered by confectionery manufacturer George Payne & Co for use on an ICL 2903.

A TURNKEY system for quantity surveyors, at a starting price of £17,500, has been produced by Computer Design Systems, of Manchester and Cardiff. In addition to generating bills of quantities, the system can handle accounts and payroll processing.

THE French software house Slogos-CPP has released a new performance monitor called Optas designed for the IBM DOS/VS environment. Among standard outputs are CPU utilisation per instruction or group of instructions; file I/O wait times; and in-phase loading delays.

THE Digital Equipment version of the Statistical Package for the Social Sciences developed by Pittsburgh University, SPSS-10, has been installed on the international Rapidata network.

THE NAG group has received its 200th order for GLIM-3, the latest version of the Generalised Linear Interactive Modelling package, from Waikato University in New Zealand.

End-user tools vital to market growth

THE need for end-user programming tools on small business systems has been dramatically highlighted in a new report from Input Europe. Without them, it argues, the demand for user support will, within a few years, exceed the capacity of suppliers to provide it, presenting an obstacle to the growth of the market.

"At the rate of growth of small system shipments (which in Europe varies between 25%-40% according to country) demand will exceed support before the end of the 80s," the report says.

"There is thus an urgent need to review the means available for encouraging and enabling the user to help himself."

The report notes that minicomputer manufacturers have already reached the limit of the support they can provide. However, "thanks to the third party support available from systems and software houses, the upper limit of shipments possible is still five to six years away."

In the case of small business systems, where suppliers in general rely less on third parties, field support staff are currently available in sufficient numbers. However, rough calculations show that the limit will be reached in 1984.

For "office computer" vendors — such as Nixdorf, Kienzle and Philips — the equivalent point will be reached in 1982.

Arguing from these figures, the report finds that simple user programming tools appear to be a "must". It also points to the potential of languages developed for specific vertically-oriented markets — "problem-oriented syntax".

But it notes that there is also an important role for the "black box" application system. "Dedicated, fixed application systems look very attractive and offer the best approach/solution to the need for narrowly targeted systems which require little support."

In another section, the report focuses on the problems faced by system suppliers in providing application software, singling out the cost of maintenance as the major unknown.

"Vendors' personal conviction — rather than actual monitored data — suggest that product maintenance creates over one quarter of the total cost

of an application during its lifetime.

"Thus, if revenue is to balance cost in all areas of an application, then maintenance should represent 25%-30% of total applications revenue and charges to end-users should be adjusted accordingly."

However, Input Europe contrasts these estimates with the findings of its own survey in the US, which looked at software costs incurred for business application systems over a useful life of five years or more.

Results from this study indicated that maintenance on average accounted for 67% of total ownership costs.

"This suggests either that vendors' estimates are optimis-

tic or that they have discovered design methods they have not passed on to their users."

"As with hardware products, the cost of maintenance is a fundamental issue. Few manufacturers would argue with the conclusion that, as the maintenance costs of a product exceed its maintenance revenue, it should be replaced as soon as possible — and dropped from the catalogue."

"Without knowledge of this cost for each application, how can logical decisions be made?"

Application software development for mini and small business computers, pp 128, £1,250, Input Europe BV, Empire House, 414 Chiswick High Road, London, W4, Tel. 01-895 5397.

File management for use on Series 1

A FILE management system designed for use with the RPS1 operating system on IBM's Series 1 has been developed by the New York software house Data Structures Inc. Called RMS, it is intended as an integrated technique for data storage, retrieval and manipulation.

RMS supports user programs in Cobol, Assembler, Fortran and PL/I. RMS commands embedded in programs are translated by a pre-processor into calls to the RMS run-time system, which operates in the shared task set partition.

The package also allows RMS commands to be executed directly, giving programmers the ability to browse through files online and modify them or will.

Random organisation is among the number of file organisations supported and, in all file types,

record lengths can be variable and can be expanded or contracted during updating. File space is allocated dynamically.

The software also supports multi-volume files and multiple indices per file.

In the interest of efficiency, RMS retains frequently-used data in memory and shares a single buffer pool for all system needs. At the user level, it provides record-level locking to protect a file against simultaneous updating when it is being accessed concurrently by multiple users.

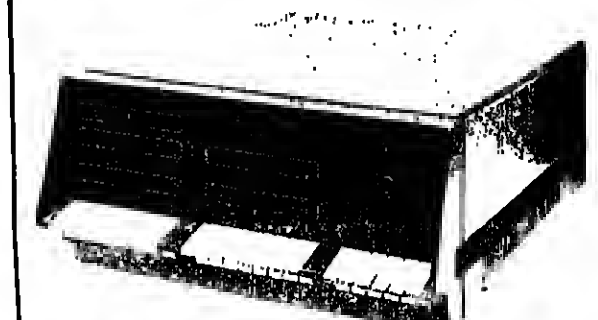
The package in addition helps in the area of integrity and recovery, regarding file changes as temporary until a successful update is confirmed.

License price for RMS in the US is \$7,500 with significant multiple site discounts.

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The DPS1 comes as a mainframe with front panel, Motherboard, power supply and system line required in the own time. S100 bus boards from a number of manufacturers will plug into the DPS1 IEEE S100 bus.

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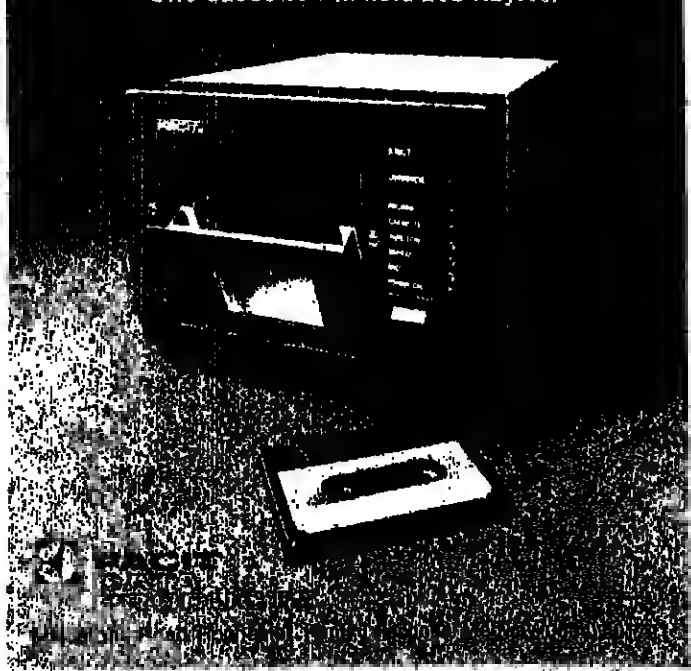
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OP SPOT

Many installations fail to recognise, and therefore waste the vast wealth of experience that exists within the operations fraternity. In this article BARRY

JOHNSON, operations manager at Univac in West London, shows how the operator's role can be broadened to benefit both staff and site.

Set your sights higher to achieve career progress

JUST how far can an operations department's accountabilities go? How can increased responsibilities be implemented to provide meaningful challenges in an operator's career progression? How much can an operations manager commit himself to while remaining fully confident his department will meet deadlines and achieve its goals? Why ask the questions at all of "just an operations group"?

Over five years ago questions such as these probably were not asked. Computer operating and the operators were probably regarded as the dogbodies of the computer industry. As long as they were paid they would stay with a particular firm, and if salary was more attractive elsewhere they would move elsewhere. The general consensus being that if you've operated one manufacturer's system you can operate all of his systems.

Career progression probably was not discussed (apart from promotion to trainee programmer - wow) as operations was not regarded as a career. It was the back-door entry to the computer industry.

However, present-day operating should allow for the fact that there are a large number of very intelligent, skilled people who enjoy computer operating but do not enjoy mundane, boring tasks.

There are a large number of areas within which an operations group can play an important, relevant part but may not be given the opportunity to do so.

2. They should be involved in the testing of new software.

How many times has a new software release been given to the operations group to initialise the system, only for it to be found that after a few hours or days the software has bugs and has to be rejected? Naturally

software people tend to test the newly integrated code with not too much emphasis on related, unchanged code.

It is also fairly common for software people to be offered overnight test time, and consequently what precious little prime shift test time is used is usually deemed enough. Have the operations group involved, and provided they are passing enough meaningful feedback to the software people on any errors encountered, you should find that test time can be scheduled at any time during shift cover and a reasonable rapport will exist between software and operations personnel.

Tests I have seen suggested and run by operations include hitting the wrong keys on the console, powering off a disc drive during access, putting up magnetic tapes with the oxide scraped off, taking controllers offline during use. All tests within the boundaries of the software operation, but with the human and hardware errors forcibly introduced.

2. File maintenance should be under the control of the operations group. I see no reason why operators cannot be given the overall responsibility of file allocation and security. The reasons I have heard for keeping control out of operations is that certain users may have requests for large file space rejected. It also usually follows that the user group responsible for file maintenance has the largest allocation. Operations would be able to act as an impartial file implementation group and able to offer a file service throughout shift cover.

3. Training should be given more emphasis. How many firms are content with sending operators away to training courses and then saying "Do us you've been trained?" Unless a lecturer/tutor/instructor has prepared a course based on each individual's background and the firm's applications, no course can be completely relevant to all its students. Such a cross-section of operators would attend that it would be impossible. Here I refer to actual operating courses, not supervisory, administrative or computer appreciation courses.

Why not send one or two experienced operators on an "advanced" course and then give them the total responsibility for formulating and supervising the implementation of the operators' training programme? Note - "training programme", not just training course. This would give the necessary technical expertise tailored to each site's requirements, and additional responsibilities to the more senior operations personnel.

4. Shift leaders should be given the freedom to administer their own shift personnel, even as far as giving periodic performance appraisals, salary reviews and hiring interviews. Naturally the manager has overall accountability, but the shift leader is more than capable of performing such administrative duties. Nothing is more



Where it all happens - a typical operating environment.

meaningless than an operator receiving a performance review from an operations manager who has probably never seen the individual operate and who has to assess his capabilities, outline his future training and decide on his future career.

5. Operations personnel should be invited to provide input to any projects or activities which affect them.

The manager, I feel, should ask the operators what should be done if they were "in his shoes". In the event of ideas being rejected then I feel this should be justified.

Let the justification be known, and this will encourage further ideas.

These are just a few areas where operators can be given extra responsibilities without just increasing the online operating.

Five years ago operators were probably happy to have their online duties increased. Now,

however, if they have been in operations for most of their career, they need to be shown opportunities within the group which can enhance their chances of career progression at a later date.

I cannot see an operations career for all operations personnel but I do get annoyed when operators express their long or even short term aims as lying within programming (usually as a trainee!). By no means wish to decry the software side of the computer industry (having worked in it myself) but I wish people would stop regarding the natural next step for a senior operator as programming.

With more emphasis on each individual within the group, especially in the areas of hardware knowledge, software appreciation and administrative training, the end result would be a senior operator/shift leader "over-qualified" for a trainee programmer position.

I have known people move

from an operations group with the necessary specialised training behind them into executive support, operations support, operations consultancy, acceptance test specification, engineering, applications support, pre-sales support, and operations management.

I would therefore suggest to operators: Set your sights higher than trainee positions and look for areas in which your group may play an important role. Management may tend to be a little wary initially, probably due to lack of confidence. I feel, however, that if operators are looking for worthwhile careers then they will make every effort to accept and excel in areas of additional responsibility and accountability.

The manager should then be in a position to determine the strengths of his department (and implicitly identify and work on its weaknesses) and be able to define for it meaningful objectives and goals.



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Peripherals exhibition set fair for September

PACE - The Peripherals at the Centre Exhibition - opens its doors on 11th September on what promises to be the best display of peripheral hardware this year.

exhibiting at PACE under its newly formed Peripheral Division.

neighbour, Wilkes Computing of Bristol, will be showing off the Datanedia 80/1 video terminal.

The three day exhibition at the Cunard International Hotel, Hammersmith is attracting interest from a wide variety of buyers and indicates just how much a part of modern business this equipment has become.

LATEST DEVELOPMENTS

An opportunity to see the latest in peripheral equipment:-

Newbury Laboratories has supplemented its VDU's with a new printer, and Sigma Electronics will be explaining their latest Advanced Raster Graphics Systems on Stand 31.

A new double density floppy disk system will be exhibited by Data Design Techniques, and M62, the new code conversion reader punch, will come from Mideltron. For those looking for a digital tape transport system, SE Labs are showing their EM1 8800 Superdrive on stand 48.

FREE TICKETS

Specifiers and buyers of peripheral equipment can save themselves the £5 registration fee by applying for a complimentary ticket. See the coupon at the bottom of the page.

UP-TO-DATE

Getting the right peripheral hardware requires keeping up-to-date with the latest developments, whether the decision is made by a small business or a multinational. This has been proved by the requests for PACE tickets which have come from all sectors of industry. Buyers are anxious not to miss the opportunity of comparing products and picking the brains of the experts.

the other aspects of the computer industry.

NEW AT PACE

An exhibition such as PACE provides the ideal opportunity to announce a new company or unveil new products.

Among the exhibitors who may be new to the U.K. peripheral buyers are Epson America, currently setting up in the U.K.; PerSci, manufacturers of floppy disc drives and controllers, and Colombia Data Products, both being introduced through Datatype Systems. Century Data, OEM supplier of hard disc drives, was formerly CalComp's Memory Products division, and Pericom Data Systems will be

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Columbla	Pericom
Data Design Techniques	Perkin Elmer
Data Systems Design	PerSci
Data Type Systems	Plessey
Data Type Terminal	Quintec
DEC	Ranitek
DRG Business Machines	SE Labs (EMI)
DSI	Summagraphics
Digi Data	Tally
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PEOPLE AND EVENTS

Prime million dollar super salesman

A SALES executive with Prime Computer, John Woods, has joined the ranks of the "super-salesmen", by becoming the first person in Prime's UK operation to win a million dollars' worth of orders in one month.

Woods, 33, has been a sales executive for Prime for two years, and the million dollars comprises four orders placed by private companies in the UK during June of this year.

His success follows that of GEC salesman Peter Lane, who last year earned £102,000 by working 18 hours a day for the company. Lane, who described himself as "almost a workaholic", earned almost double the pay of GEC managing director Sir Arnold Weinstock.



Woods, 33, has been a sales executive for Prime for two years, and the million dollars comprises four orders placed by private companies in the UK during June of this year.

Honeywell appointments

KEY management appointments in the customer services division of Honeywell Information Systems include Les Lomax and Alex Russell.

Lomax becomes director for the Northern region, based at Honeywell's regional headquarters in Cheadle Hulme,

Cheshire. Since joining Honeywell 14 years ago, he has held the positions of systems manager, account manager and marketing manager.

Formerly divisional systems manager of Honeywell's data processing division, Russell has become director of product support operations.

Edward Keating has been appointed to the board of directors of the International Micrographic Congress. He is president of Datagraphix, where he has worked since 1971. The 11th annual IMC conference is to be held in Paris this year from September 24-27.

Alan Dobson, previously UK technical support manager for Redifon Computers, has now been appointed international services manager, responsible for international engineering operations and international and UK technical support functions. Manager of systems engineering operations is Keith Banks, formerly customer services manager. He will assume responsibility in the UK, Eastern Europe, Eire, the Middle East, Far East and India.

George Widdington has become sales manager for software products with Systems Designers. He previously spent five years in marketing with IBM.



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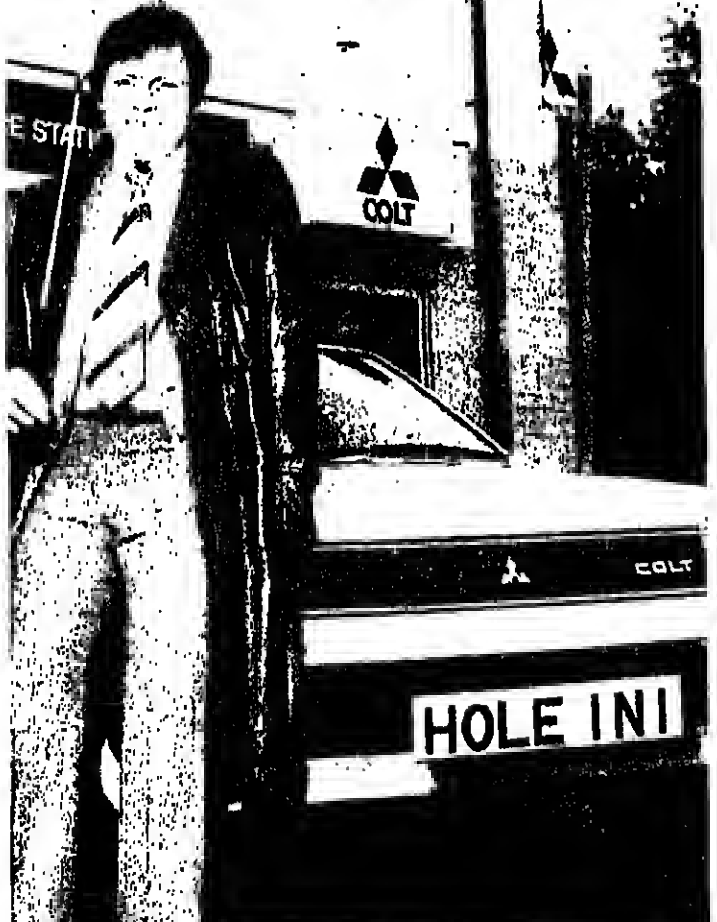


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Manchester launch

A NEW Manchester-based company has been launched by Northern Software Consultants, the UK manufacturers of application software. The company, NSC Computers, aims to provide a solution to management information problems, such as accounting, order processing and stock control. This will be based on a complete computer system, small enough to fit on an office desk. Marketing director of the company is Paul Lakeland.

Tony Ward has joined Computer Machinery Company as territory manager for the firm's new business marketing branch. He was previously a senior salesman with Olivetti.



ONLOOKERS at Stenmore Cricket Club's annual fête were amazed when David Birch, who has only one arm, won a golf competition to hit a hole in one. The competition, an annual feature of the fête, has never been won before. David is branch engineering manager for Gaze Quinlan in Bristol, and lost his left arm in a car accident when he was five years old.

He is pictured here with his prize, a £4,000 Colt car with the registration plate HOLE IN 1. David put his success down to luck, saying, "I've only played golf three times in the last two years."

Marconi award

NOMINATIONS are invited for the sixth annual Marconi International Fellowship, which will be presented in 1980.

The Fellowship of a £25,000 grant, which commemorates Guglielmo Marconi's contribution to science, engineering and technology, is awarded to someone who has made an outstanding contribution to the improvement of communications in developing countries.

Nominations should be sent before October 1 to the Marconi International Fellowship, Aspen Institute of Humanist Studies, 1919 Fourteenth Street, No. 811, Boulder, Colorado, 80302, US.

Ken Rothmuller has become project manager for Apple Computer's professional systems group. His most recent position was that of manager of database software for Hewlett-Packard's 3000 computer series.

Alan Butcher has joined General Computer Systems (UK) as territory manager for Northern London, Northern Home Counties and East Anglia. Ted Vivian has also been appointed to head Datatext sales in South London and the South and West of England. Both were previously salesmen with Rank Xerox.

Ian Townsend has become personnel manager for Selcon Consultancy International. He was previously senior personnel officer for British Airways.

Wolf Loescher has been named by Motorola Semiconductor Europe to head a recently expanded MOS facility in Scotland. Loescher was formerly CMOS operations manager in Austin, Doug Dunn, who continues as head of the company's NMOS operations in Europe has been appointed assistant general manager at East Kilbride.

By Judith Morris

MICRO NEWS

East Germany prepares major thrust into chips

THE production earlier this year of a Control Data report on Russian microcircuit developments (CW, April 5), compiled with speculation that some of the design work for these chips had been carried out in East Germany, suggests that the East Germans are planning a major thrust in the technology.

Decrees passed by the sixth meeting of the Central Committee of the Socialist Unity Party of Germany demonstrated the importance placed by the East German government on microelectronics technology and its application, and indicated the need for the government to protect its microelectronics industry.

It now seems probable that considerable funds are being committed to developments in microelectronics by the East Germans, though since the entire industry is State-owned, it is difficult to isolate an amount.

Some of this money is almost certainly being committed to microelectronics production technology. A recent issue of the Jena Review, an English-language publication from optics manufacturer Carl Zeiss Jena, carries several articles on

electron beam and X-ray lithographic systems. These seem capable of producing circuits with geometries well inside the 3 micron range, and therefore well into the VLSI category.

Industry sources are now speculating on what uses the East Germans will put this production capability to, bearing in mind that there is little in the way of a "consumer" market for microelectronic products in the country.

It would appear that the major development effort is to be found in bipolar devices, particularly ECL, rather than in MOS products. Here, two main product groups are being suggested.

The first is low-end 4-bit microcontrollers aimed specifically at applications in the industrial control market.

The second is much more advanced, and considerably more interesting. This is fast and complex bit-slice devices intended for large computer systems.

The East German computer company, Robotron, already has a mainframe equivalent to IBM's 370/148. This is known as the ES-1055 (CW, March 16). It is now being suggested that the

bit-slice devices currently under development are intended for something new from Robotron, an equivalent system to the new IBM 4300 range of computers.

Though the East Germans' efforts seemed directed towards ECL technology, any developments in microelectronics applications means the increasing use of memory devices — and that means MOS.

As the Control Data report showed, the Eastern bloc countries are capable of producing well-engineered MOS memory parts, even if the designs are virtually direct copies of US devices.

This has led to further speculation as to where the Eastern bloc countries obtain details of these designs.

The first possibility is "reverse engineering" where a manufac-

tured device can be quite literally taken apart, layer by layer. As a result of this process, the required masks to produce those layers can be generated.

The second is that some of the leading Western manufacturers are turning a blind eye to mask sets of circuits "going AWOL". The theory behind this idea is that support and investment for new designs, especially from the military, will be easier to obtain if it can be shown that Eastern bloc countries are up with current technology.

It is interesting to note that late last year, the US Defence Department announced a \$200 million development programme for Very High Speed Integrated, VHSI, devices that would be 100 times faster than current circuits (CW, November 30, 1978).

By Martin Banks

London software shop

ONE of the best-known US suppliers of microcomputer software, Lifeboat Associates, is setting up shop in London under its trademark, The Software Supermarket.

At 32 Neal Street, London, WC2, the company will be bringing to this country an extensive range of software products running under the popular CP/M operating system. These are suitable for most makes of microcomputer system.

In addition, Lifeboat will be offering products specifically written for, or tailored for, the UK market.

Rothwell introduces small business system

ANOTHER entrant in the race to capture the small business computer market has been introduced into the UK by Rothwell Data Systems of Aldershot.

This one is the Billings Microsystem, manufactured by the Billings Computer Corp of Provo, Utah, US.

The 280-based system costing about £4,500 is an integral desktop unit incorporating a total of 64K bytes of RAM, dual mini floppy disc drives offering 300K bytes, 12-inch video display and three keyboards: qwerty, numeric, and dedicated function.

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An alternative configuration of the system provides a total of 2 Mbytes of secondary storage by using an external dual floppy disc drive.

A number of applications software packages are already available for the Microsystem, which can run Fortran, Cobol and extended Basic high-level languages. The system utilities available include a text editor, assembler, overlay linker, and user library routines.

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Liveness File

by Den

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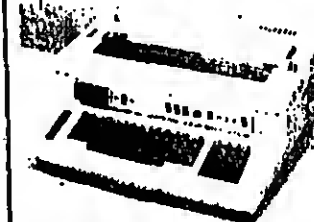
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The person appointed will hold development responsibility for systems within both home and international sales and the associated marketing areas. He/she will interpret the requirements of user departments then relate these in system design, specification and administration, and ensure that development is completed within agreed time/cost parameters. Extensive liaison with the company's warehousing and distribution site will also be involved in ensuring that new developments interface with existing production applications.

The successful candidate will offer proven analysis skills spanning at least five years in the D.P. industry and incorporating the complete development and control of financial/commercial systems. A programming background will be advantageous but the most important factors are good communicative and project control abilities.

The company's strong commitment to D.P. is reflected by its current and planned extensive use of IBM System 34 hardware and related MAAPICS software throughout Europe. In the short term the Systems Controller will gain extensive experience of corporate information systems and in the long term can look forward to an interesting and progressive career path.

Ref. NI/2308

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Please send full current details and list separately companies to which we should not forward your reply. Write the reference number on the envelope and post to our London office, 30 Farringdon Street, London EC4A 4EA.

Senior Systems Programmer Systems and TP Programmers

Our client a large international bank has an expanding Computer Centre located in Poole, Dorset comprising two IBM 370/158 computers which are shortly to be replaced by two IBM 3032 computers.

The systems operate under VM and OS/VS1 with TCAM based teleprocessing applications. Plans are in hand for a conversion to MVS during 1980.

There are vacancies, on a contract basis, initially for 2 years, for:

A Senior Systems Programmer

Salary up to £10,200 p.a. depending on experience. Applicants must have at least four years' systems programming experience in an IBM environment with good assembler knowledge.

Systems and TP Programmers

Salary up to £8,200 p.a. depending on experience. Applicants should have at least two years' experience in an IBM systems/TP programming environment with a sound assembler background. Subsidised staff restaurant. Assistance with re-location expenses will be paid if applicable. Reference: 1573

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RPG II Analyst/Programmer

Salary neg. £6,000 - £6,500
Glasgow

Our client, a highly successful manufacturing organisation, currently requires an experienced Analyst/Programmer for their professional Data Processing Department.

Ideally, they're looking for a fresh thinking individual with at least 18 months current experience in RPG II allied to an involvement in systems analysis. Applicants should also be familiar with IBM Systems 32 which is being utilised in IPICS manufacturing applications.

This appointment offers you the opportunity to work on a large variety of new systems presently being introduced within a lively working environment, combined with considerable scope for personal challenge and development.

An attractive starting salary negotiable around £6,000 - £6,500 will be offered together with a comprehensive range of fringe benefits including 5 weeks annual holiday, free membership of BUPA and membership of an up-to-date pension fund with free life assurance. Generous assistance with relocation expenses will be provided where appropriate.

Please apply in writing with details of experience, qualifications, age, etc., quoting Reference R48717 to:

The Manager,
Confidential Reply Service,
MCS/ROBERTSON & SCOTT,
MCS House,
23 Park Circus,
Glasgow G3 6AS.

All letters will be opened, acknowledged and forwarded to our client. Please list separately any companies to which your application should not be sent.

WORTHING BOROUGH COUNCIL COBOL PROGRAMMER

An ambitious programme with good experience is required to take a leading part in the development of an on-line finance management information system using ICL 2904 hardware, 7502's and V.C.U.s. The work will be challenging and a high standard of output is sought. Temporary housing accommodation may be available in appropriate cases and for generous removal and resettlement allowances paid. Excellent conditions including flexible working hours, good social facilities and staff canteen. Salary up to £5,067 per annum offered to the successful candidate possessing the required ability and experience. Telephone 0902 37111 (ext. 47) for further details and an application form which should be returned to the Borough Manager, Services and Personnel Officer, Town Hall, Worthing BN11 1LE by 31st September, 1979.

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Business Systems Analyst SW London

£7500

A major world-wide manufacturing company wishes to recruit a Business Systems Analyst at one of its sites in the South West of London. The Systems Analyst will have full responsibility for the Development, Operation and Implementation of the System for this site. The ideal applicant will be responsible to the Site Chief Executive. The successful applicant will be expected to contribute to current development i.e. implementation of the material control system, on-line to the company central computer and export documentation on local mini computers. Preference will be given to a self-reliant applicant who has had several years analysis experience, but training will be given for computer professionals with relevant experience.

Reference: DL/081
Usual large company fringe benefits.
Telephone: Diane Butler 021-454 7808

Systems Analyst and Engineers Glenrothes, Scotland

£7500

A leading industrial organisation have urgent additional requirements for a large quantity of experienced Analysts and Systems Engineers to work on a wide variety of new development projects within the manufacturing and distribution area. Equally, ability to advise user's in the use of DP facilities will be important. All candidates must be graduates either in Computer Science or an acceptable related discipline. No candidates without degrees are acceptable to the group. Excellent salaries and relocation assistance are provided. Apply urgently for application forms.

Telephone: John Wood: 0782 623686

Top Project Manager Analysts and Programmers

£8000 Midlands
£6500

We have a vast range of current vacancies for experienced and junior staff throughout the Midlands, especially within the Birmingham region. Groups vary from major users seeking to recruit new development staff for major innovative projects, to Turnkey Systems companies seeking to develop a diverse range of applications systems on a wide variety of minis and micros in the Honeywell L68 and OGC Micro range. All candidates applying to us for this particular advertisement can arrange interviews at only 1 to 2 days notice with our Birmingham Data Centre for prospective Turnkey appointments in an ultra modern Data Centre with an unrivalled DP future. Any experience of BASIC language would be especially advantageous to experienced programmers seeking a range of interesting projects based on OGC Micro Novas. Suitable conversational training will be given for all staff interested in entering the high growth future technology Turnkey systems field. Please telephone today for an application form or interview.

Telephone: Carol Proudman: 021-454 7806

Data General Analysts & Programmers Birmingham

To £7500

Experienced Basic Programmers and Systems Designers with a sound working knowledge of D.G. Micro Nova Systems are urgently required to join a rapidly expanding Turnkey Systems Division in our Birmingham Data Centre. A wide variety of commercial and industrial projects are available involving sound initiative and project experience and early career development. Ability to communicate effectively with clients and in work to confidential team settings will be important. Candidates who have worked on projects right through to and including systems testing are especially of interest. Apply urgently for an interview at the Data Centre. We have facilities to suit.

Consultant: Carol Proudman or Ian Gapper, 021-454 7806

IBM Systems Programmers North & West London Up to £8500 plus car

Experienced Systems Programmers are urgently required by a number of large and medium sized institutions using a variety of hardware ranging from 370's to 4300's. Both OS and DOS experience are high in demand and interested in experienced problem solvers, able to work with a minimum of supervision in the areas of Networking, Database and general facilities development. Very attractive salaries and fringe benefits are available for good experienced Systems Programmers able to make a definite contribution to large users. Contact us today for an unrivalled appraisal of opportunities in areas of interest to you. Salary prospects would be better at present.

Telephone: John Wood: 0782 623686

IBM System 3 RPGII Project Leaders London City

£7700

An international commercial bank has ongoing requirements for experienced RPGII Analysts/Programmers to work as Project Leaders developing banking applications and ancillary Accounting Systems. A minimum 4 years' RPGII experience on IBM System 3 is required. Excellent salaries and fringe benefits are available to experienced personnel capable of controlling a small team of both permanent and contract staff.

Consultant: John Wood or Carol Proudman: 0782 623686

Systems Consultants North West

£9000 packages

We require a Senior Consultant to undertake in depth feasibility studies in the financial control areas of client companies. You should have past experience in Project Assessment, Planning and Systems Design. Successful projects would include your taking control of teams to design and develop on line application systems through to systems testing and implementation. Both mainframe and mini computer systems are involved. Preparation of costing plans and identification of benefits will be important as will be the ability to present at senior management level. We urgently require top level Systems Analysts and Designers. Contact us urgently for an early interview.

Consultant: John Wood: 0782 623686

Salesmen Hundreds of Vacancies UK

£20000 + car

Most computer and peripheral manufacturers are urgently seeking additional experienced or junior salesmen with good communication ability. Equally, there are an increasing number of vacancies from Turnkey Groups, Bureau and Systems software houses eager to expand current business opportunities. Experience of Sales or Marketing, or even as a Support Consultant now eager to transfer to direct sales will be of considerable interest to a wide range of clients. We can find an early series of clients for all experienced salesmen telephoning us today for application forms.

Telephone: John Wood: 0782 623686

Systems Analysts London & Home Counties

To £8500

EMS currently has a wide variety of London-based organisations desperately seeking experienced Analysts to support ongoing development commitments in addition to new systems design. Clients include Banks, Bureau, Chemical Processors, Chain Stores, Computer Manufacturers, Distributors, Engineers, Freight and Haulage Groups to a wide variety of industrial concerns. Our major problem is portraying the wide range of choice and excellent choice available. Please contact us today for an application form. All searches are fully computerised, giving you access to 3,000 vacancies and an unrivalled series of opportunities. Most candidates are employed and impressed by the wide range of vacancies which are available in their choice and the quantity of interviews which are able to be arranged for them. Your major problem on the EMS file will be, which job to accept. Give your career a real boost. Let EMS provide results for you. Telephone today for an application form.

Consultant: Carol Proudman: 0782 623686

Analysts & Programmers Kuwait

£20000 Packages

Kuwait's leading consultancy has regular requirements for experienced DP staff educated to HND or Degree Level. Hardware requirements include IBM, Burroughs, CMC, Hewlett Packard and NCR. Vacancies include Systems Analysts with IBM - IMS or CICS experience through to Inventory control, petrochemical systems through to state ministries. Programmers are urgently required to support Banks, Distribution and Trading Groups, Oil Companies, State Ministries and Turnkey Systems. Support on CMC Reilly or Hewlett Packard. All candidates should be available within one to three months and preferably have not more than one child due to accommodation problems. Preference will always be given to single status or married couples with no children. Excellent opportunities exist to save real money and to purchase a large house within the U.K. with a minimum mortgage support after a few years in the U.K. Interviewing will be held both in London and the Midlands.

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Hundreds of installations throughout London have a constant requirement for both Junior and experienced Programmers. Languages include COBOL, ASSEMBLER, BASIC, PL/1, PLAN and FORTRAN. All EMS vacancies in addition to candidates are fully computerised on file ensuring precise candidate/company cross matching for exact matching. We place candidates so quickly we are constantly short of new staff for the system. With EMS, your major problem will be which job offer to accept. Every installation receives weekly summaries of staff available, ensuring maximum market coverage for you and a wide variety of interested companies weekly to choose interviews with and attend. EMS candidates are always impressed with the speed and efficiency of our service. Clients include Banks, Bureau, Chain Stores, Computer Manufacturers, Distribution, Engineers, Insurance Group, Industrial Groups right through to Turnkey Systems companies. EMS got the results in the industry. Why chase that one advertised appointment when we have up to 3,000 to choose from. Telephone today for an application form.

Data General Micro Nova Project Managers Birmingham

From £7000

We urgently seek an experienced Project Manager, thoroughly conversant with Mini Computers, and especially with the D.G. Micro Nova Series, to work on developing customised client applications programs within our Turnkey Group, in addition to working on future package developments. Increasing quantities of new orders are being received to ensure maximum job interest to experienced Systems Designers and Project Managers. Programming ability is essential to clearly understand the complex problems faced by subordinate staff and to advise accordingly. Past experience of project control through to systems testing and installation will be important. We envisage you controlling up to two teams of 3-4 staff concurrently and on ordinary user training and acceptance of systems. The ability to competently project development times and to co-ordinate group activities to meet target dates will be important. Excellent career prospects are available for Project Managers capable of producing systems on time and ensuring optimum client satisfaction. Telephone today for an early interview.

Consultant: Ian Gapper or 01454 7809

IBM Analysts and Programmers Midlands & Northern

To £6500

A major British Engineering Group has on-going requirements for their various manufacturing sites throughout the United Kingdom, especially within the Midlands and Northern regions. Experience of IBM COBOL in an industrial applications environment is important. The group is constantly engaged in new systems development for a wide variety of user clients. Career development opportunities are excellent. Attractive salaries are available.

Consultant: Carol Proudman: 0782 623686

Analysts and Programmers Europe and Berkshire

Negotiable

Experience of working on ICL 2900 series range is essential. Candidates are required for a major software house supporting ICL user clients throughout Europe. Any IBM experience would be especially advantageous. Equally, experienced Plan or Drive would be useful. Attractive salaries are available for staff prepared to accept a degree of mobility for European assignments in addition to UK assignments.

Telephone: Carol Proudman: 021-454 7806

PDP Software Programmer Derby

Negotiable

Our clients are seeking candidates with a minimum of 4 years' PDP experience using EXS and Micro 2 to work in an expanding software unit. The Department operates within a successful and prestigious company which is a key market leader in its own field. Ability to produce sound software resolutions to current problems will be important.

Telephone: Carol Proudman: 021-454 7806

COMPUTERISED SELECTION

EMS is the foremost Recruitment Consultancy, has up to 3,000 vacancies on file at any one time. All jobs are constantly updated by weekly re-assessment via our computerised system to all U.K. computer users. We have the optimum recruitment system, placing your profile details before every interested P.M. Manager. In the future, all your choice, Salary, Hardware and language or all combined to ensure optimum company/candidate compatibility before client interviews are arranged. In addition to an extensive applications experience check, EMS candidates are generally overwhelmed by the range of opportunities coming available within a week of initial registration. Use the technological resources of your industry to produce genuine, well-balanced results for you. Join hundreds of other candidates who gained a real career boost by approaching EMS for a career move. You will find the choice we give you far in excess of anything attainable by competing for each single vacancy advertised. We find the vast range of attractive positions never advertised for you. In addition to testing your profile against every weekly advert broadly, EMS gets results. Phone today for an application form and you will be supplied by the results.

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Phone: 021-454 7806 or 0782 623686
Write to Recruitment Division
L.M.S. Data Centre
Trenton House, Hatfield Road,
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PROGRAMMERS

DEC PDP 11/70 — BASIC — Unit Trusts — City — 3-6 months
Database Programmers, N London 3-6 months
Honeywell L68 OS/TDS London — 6 months
Honeywell L68 OS/TDS Midlands & North — 8-12 months
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Unilever FORTRAN — London & Midlands — 12 months
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Come in at the beginning of our ambitious DP project

We are taking a fresh look at our approach to information systems on our manufacturing plants, using the latest computer technology to create a highly integrated data base. This will be the source of management information and the base for development of advanced applications. The project will use the latest computer hardware and Exxon's Worldwide experience of computer project development.

We can assure you of a great challenge with a lot of personal responsibility and your ability and effort will contribute to the success of the project.

Chief Programmer

To become a key member of the programming group which will require the potential to lead and co-ordinate projects. At least 3 years experience ideally on a large IBM configuration with PL1 VM/CMS and data base applications. A Degree in Computer Science, Engineering or numerate discipline is essential.

As a large organisation with a secure and developing future we can offer competitive salaries to young men or women who want to progress in an environment where success is rewarded. Our benefits package also includes relocation assistance to this attractive part of the South Coast. Telephone Howard Winters on Southampton (0703) 893822 or write with full details to Esso Chemical Limited, Fawley, Southampton SO41TX.



Systems Analyst

To work with users who are engineering professionals you will need good communicating skills and the potential to lead a team in the future. A Degree in an engineering related subject is essential plus at least 2 years experience in a manufacturing or technical environment.

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INTERACTIVE COMPUTING SERVICES
DATA CALL OF LEEDS IS STILL EXPANDING ITS
DEVELOPMENT TEAMS FOR DES SYSTEMS AND
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ANALYST/ PROGRAMMERS ARE REQUIRED QUICKLY

2 years' Cobol experience is what you need. Other experience that would be an asset may be:

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177 Kirkstall Road, Leeds LS4 2AQ



Computing
Services
Association

Berkling Precinct—Computer Centre

Senior Operator (T3/4)

Required to work within the Operations Group at the Computer Centre. The duties include controlling the flow of work through the computers, interpreting and acting upon messages displayed by the operating systems, monitoring equipment for possible malfunction, and assisting in preparation of shift records. Applicants should have attained at least GCE 'O' level standard education and have experience of ICL 1900 series computer. The hours of work covering two-shift working are between 8.00 a.m. to 23.00. Salary is on a scale ranging from £4,986 to £8,112 per annum inclusive according to age, qualifications and experience. Ref. T149/78.

Computer Assistant (T1/2)

This post provides an ideal opportunity for a young person wishing to enter the field of computing. The work will include assisting in the operation of computer peripherals and off-line equipment, and collecting input and output documents. Candidates should be aged 16 years or over, and have obtained 'O' levels in several subjects.

Two shift working is in operation, the hours covered being 8.00 a.m. to 23.00 p.m. and 23.00 p.m. to 8.00 a.m. Salary is on a scale ranging from £4,986 to £8,112 per annum inclusive according to age, qualifications and experience. Ref. T150/78.

For further details and an application form please contact the Personnel Office, North East London Polytechnic, Ave House, 158-164 High Road, Chesham Heath, Romford, Essex. Tel. 567 2321 (ask for recruitment specialist) quoting the relevant reference number. Closing date: September 7, 1979.

NELP North East London
Polytechnic

Anglian Water Authority ELECTRONIC INSTRUMENT TECHNICIAN

(Computer Analogue)
Post No.: R3R26 Grade 4 £3,887-£4,184
(plus £312 p.a. supplement)

Applications are invited from suitable qualified and experienced persons for the above post based at Boston within the groundwater unit of the Resource Planning Section of the Divisional Engineer's Department. Applicants are expected to have a degree or HNC or equivalent in computer science and electronics and several years' relevant experience. Applicants should be able to collect and analyse hydrographic data and the ability to design, construct and maintain simple electronic component and circuit design. The duties of the post include working in a small team under a hydrogeologist in connection with the programming, operation, routine maintenance and improvement of electronic analogue and computer equipment, simulating and modelling groundwater resource systems, including the collection, analysis and programming of relevant data, and the preparation of reports and operational results. Groundwater forms an important contribution to the Division's Water Resources and a wide programme of investigations and surveys is in hand and will continue for future years. This post provides an opportunity to broaden and widen experience in analogue and digital modelling, and to gain specialist knowledge in connection with groundwater modelling. AUC for Water Service Staffs conditions of service apply, and no locum expenses are payable in appropriate cases. This post carries a coastal access corridor allowance, and at present a review of salaries is being negotiated.

Application forms, which are returnable by 10th September, 1979 are available from the Divisional Manager at the address below:
LINCOLNSHIRE RIVER DIVISION
80 Wide Bargate, Boston, Lincolnshire PE21 8BA

DATA PROCESSING UNIT Magnetic Tape Librarian/ Data Control Clerk — AP2

Salary £4716 to £8167 inclusive
An experienced Magnetic Tape Librarian is required to control the Council's magnetic tape library of 6,000 tapes. Further training will be given to enable the successful candidate to make a career in Data Control.

This post is in a career progression scheme where advancement is based on performance, experience and achievement. Candidates should preferably have five GCE 'O' levels and one year's data processing experience, or three years' experience in data processing.

Benefits include:
● up to 24 days' annual leave, plus one day off every four weeks
● interest free Annual Special Ticket loan
● subsidised canteen
● close to Victoria main line, tube and bus terminals
To obtain application form please send postcard, telephone or call at the Personnel Manager City Council, City Hall, Victoria Street SW1E 6DP, telephone number 01-634 5955 (24 hour answering service). Closing date: 9th September, 1979.

COMPUTER OPERATOR

(Ref: 5A)

Minimum 1 year experience with ICL 1900/2904. Excellent prospects for promotion. Transport company in City. Salary c. £4000. 2 shift. 4 weeks' holiday. Season ticket loan. Staff shop.

Contact: KIM.

DATA CONTROL CLERKS

(Ref: 1A)

Croydon company require Data Control Clerks with 18 months experience on IBM equipment. L.V.s. 35-hour week. Free Life Assurance. 3 weeks' hols. Salary £3500 neg. Contact: KIM.

TRAINEE PROGRAMMERS/ NEEDED FOR SURREY & LONDON

(Ref: 011A)

Companies would like graduates-HND or degree in Computer Science — or very good A levels. Interesting positions with good promotional prospects. Salary c. £3500. 4 weeks' hols. Contact: KIM.

NETWORK CONTROLLER

(Ref: 15A)

Working through the Technical Support department of a Watford company. Would suit a Junior Operator with T.P. experience. Lots of client contact for the right technical person. Salary up to £4000. Contact: KIM.

DDE OPERATOR

(Ref: 9A)

Good data preparation background with ICL equipment for a Surrey company. Salary negotiable. Subsidised canteen. Age immaterial. Contact: KIM.

PROGRAMMERS

Good COBOL and PL/1 people needed desperately for LONDON, CROYDON, SUSSEX, KENT & CAMBRIDGESHIRE areas. For 1 year's experience + salaries start from £4000 plus plenty of perks. Contact: KIM.

KCS PERSONNEL
Knight Consultancy Services (Personnel) Ltd.
39 Lansdowne Road, Croydon CRO 2BE
Tel: 01-688 7153/7267

MAJOR COMPUTER FACILITY

Major Organisation employing large IBM equipment and using database (DL/1) and CICS seeks to strengthen its d.p. management team. The environment is a major In-Group computer facility which will service companies in various locations throughout Northern England. Both these management vacancies will be heavily concerned with providing a top class service to users in locations remote from the data centre itself. Attractive remuneration packages will be negotiated which will include re-location expenses where appropriate. Candidates should contact Ivor Norton with full career details, quoting the appropriate reference.

User Support Manager

£12,000

This position will carry responsibility for all aspects of customer service and support and is seen by top management as of key importance to the development and maintenance of a successful service to users. Previous experience, which should include a background in systems analysis and programming, must have included some time in a customer support role. This could have been gained in a large d.p. department, a commercial service bureau, or in technical support with a computer manufacturer or time-sharing organisation. Experience of working in or with customers/clients in a heavy Engineering environment would be an added advantage. Ref. (CW/79044)

NORTH EAST ENGLAND

Systems Manager

£12,000

This appointment will be responsible for the development of major systems for remote user companies. The companies vary in size and the applications cover finance, stock control and production scheduling and control in a heavy engineering organisation. The successful candidate will be a proven manager with extensive experience of systems development and implementation. Systems developments will be undertaken on a charge out basis and the manager will be responsible for the establishment of budgets, work schedules and their negotiation with the user companies. The manager must have the personality and ability to ensure that the scheduled commitments are met and that the predetermined fixed price budgets are not exceeded. Ref. (CW/79045)

Ivor Norton Management Services Ltd

RECRUITMENT CONSULTING DIVISION
52 Shaftesbury Avenue, London W1V 7OE. 01 734 8862 (24 hour answering service)
P.O. Box 63 Cophall Tower House, Harrogate HG1 1TS, Tel: Harrogate 88628

PROGRAMMERS

Our Client is in the U.K. in order to interview suitable candidates for rewarding positions in SAUDI ARABIA, good remuneration packages offered.

Knowledge of large IBM or NCR machines is desirable but COBOL is essential.

Initial interviews will be held in our London offices during the last week of August.

Please phone or send your details to us as soon as possible.

POSITION	SALARY	EMPLOYER	LOCATION	HARDWARE ENVIRONMENT	SOME OF THE QUALIFICATIONS	REF. NO.
Contract Programmer/Analyst	£230 p.w.	Office Equipment	LONDON	IBM	An office equipment company heavily committed to data processing methods as the FORTRAN Analyst/Programmer to work on financial applications.	34/1
Systems Engineer	A.I. NEG.	Software House	EUROPE	IBM DOB VS	Install and maintain our clients products on their sites. Experience of supervising staff useful, also knowledge of one or more European languages an asset.	34/2
Project Leaders	£7,500	Services Organisation	LONDON	IBM	4 to 5 years' experience as a Systems Analyst or as Systems Designer in a banking environment would enable you to become involved in our client's work.	34/3
Programmers	c£12,000	Software House	WESTERN EUROPE	MINIB	Systems Designers and Programmers with real-time experience are required to work on air defence systems. Knowledge of radar systems is an advantage.	34/4
Designer Analyst	Good	Oilfield	CHESHIRE	DEC	5 years' + analysis, design and implementation work on commercial projects. MACRO II would be a distinct advantage.	34/5
Programmer/Analyst	£5,500+	Insurance	CITY	PDP	Join our client in producing advanced real-time banking and communications systems work in the city and enjoy good benefits.	34/6
Programmer	NEG.	Petroleum Co.	LIBYA	IBM	This expanding petroleum company is in the process of recruiting staff for their DP department. Remuneration package offered is very good.	34/7
Programmers Project Managers Technical Authors	c£5,500	Aerospace Industry	U.K. + BAVARIA	MINIB	Qualifications or experience in DP or electronics disciplines are preferred for exciting work on real-time systems.	34/8
Managing Consultant	£12,000	Financial Services	MIDDLE EAST	ANY	This management position offers great scope for Arabic speaking consultants to liaise with all levels of management.	34/9

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FAMILIARITY BREEDS RESPECT... a fact that no professional who has been involved with minis will deny. We have a longstanding affection for the mini, it has served us better than could ever have been expected. Consequently, our systems development programme has been designed around a heavy commitment to the use of more minis throughout our manufacturing plant.

The growth of our mini network will soon reach a stage where specialist skills will be needed for effective control and development. We are therefore seeking a professional with a sound background in mini computers, either with a manufacturer, software house, or industrial environment.

A HIGH PERCENTAGE OF THE MINIS IN USE ARE DEC PDP 11's AND THEREFORE WE ARE SEEKING EXPERIENCE OF:-

DECNET, RSX 11M, MACRO AND IDEALLY RTL 2.

Acting in the role of a working supervisor of a small team, you will be completely responsible for all technical considerations connected with our mini project development.

We regard this position as vital to our growth and it should be regarded as a progressive career post.

An attractive range of benefits are available including a comprehensive relocation package

TO ARRANGE A CONFIDENTIAL INTERVIEW CONTACT OUR ADVISING CONSULTANT: MARTIN STANTHORPE
ON: 021-236 3781 (24 HOUR ANSWERING SERVICE)
OR: 021-744 1862 (EVENINGS AND WEEKENDS)

Specialist Computer Recruitment Ltd

London 01-835 0671 3 Mandeville Place, Wigmore Street, London W1M 5LB
Birmingham 021-236 3781 35-37 Great Charles Street, Queensway, Birmingham B3 3JY
Manchester 061-833 0427 Blackhairs House, The Parsonage, Manchester M3 2JA

CHANCE TO SEE THE CONTINENT

We are a metal-working company, situated in the Frankfurt area of Western Germany.

We are seeking a:

SENIOR PROGRAMMER ANALYST

Applicants should have a commercial background as well as several years COBOL, RPG II and ASSEMBLER experience. Applicants should also have good knowledge of teleprocessing (CICS) as well as DL/1 (data bank).

Our system is an IBM370/115-384K, disc under DOS/VS POWER/VS CICS.

As we seek a highly experienced person (Male or Female) the salary offered will be high (DM 4,500 per month depending on experience etc.).

We also have a vacancy for an:

OPERATOR

Applicants should have good experience running a D.P. unit as described above, within a commercial environment. For this vacancy several years' experience is required as an above average salary is offered.

For both vacancies a basic knowledge of the German language is necessary.

We believe that the above opportunities will give a chance for two young people to gain first hand knowledge of working in a foreign country within a friendly organisation.

Assistance with housing and relocation to Germany will be given, as well as help concerning administrative authorities etc.

First interviews will be held in Great Britain.

If you are interested in one of the above vacancies please write with full C.V. to:

FAGRO
Press und Stanzwerk GMBH
Postfach 1261
6080 Gross-Gerau
W. Germany

Systems Programmers - all levels

In order to develop our next generation of micro-computer based products we need innovative Programmers who are looking for an opportunity of applying their abilities to the design and development of complete systems.

Those abilities should include the capability of taking a product from initial concept through design and development into production.

Specifically, you will be involved on all of the following:

- * Operating Systems
- * Interpreters
- * User Interfaces
- * Maintenance and Diagnostic Routines

Previous experience in any of the above would be useful but not essential, enthusiasm being the most important factor.

We are looking for Systems Programmers at all levels, from recent graduates to those with many years of experience who are looking for a new challenge.

Initially you will be based at Croydon although some travel will be necessary in order to fulfil your job responsibilities. Long term career opportunities exist both in the UK and overseas.

The compensation package will reflect the importance placed on these positions. Salary, in particular, will not inhibit selection of right persons.

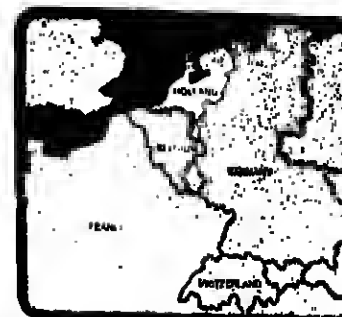
Please write to or telephone:

Phil Abraham
Programming & Systems Development Manager
Burroughs Machines Ltd.
812 Purley Way, Croydon
Surrey CR0 4NZ
Telephone: 01-888 0385, ext. 228

Burroughs

£10k+Appointments £10k+Appointments £10k+Appointments

Have you considered
**working
in Europe?**



If you have a good IBM 370 background in Systems Programming, or TP/DB Applications Development, why not contact CDS to find out more about working in Europe. We especially want to hear from applicants for these current project needs:

SENIOR SYSTEMS PROGRAMMER-VSI

to undertake a consultancy project at a Dutch client on a six-month renewable contract basis. Responsibilities will cover all aspects of VSI software support plus the training and development of 2 junior staff. Applicants should be fully conversant with BAL and have several years' OS/VS1 experience. DB/DC knowledge is also important since non-IBM database and TP systems are in use. You will be able to exercise your supervisory skills and your technical expertise during this assignment, whilst achieving excellent earnings.

For further details contact Jim Straw at CDS, on 0990 24546 evenings/weekends.

**TOP
EUROPEAN
EARNINGS**

CDS

87/73 Park Street
Camberley, Surrey
GU15 3PE
Tel. (0276) 25845
Telephone: 848688

EUROPEAN ASSIGNMENTS

APPLICATIONS PROGRAMMERS

Germany c £17,000 p.a.
At least HNC level and 3 years' experience as Applications Programmer. Good knowledge of PL/1, DB/DC and MVS/IMS/ISO. Background in IBM 370/180. German an advantage.

SYSTEMS PROGRAMMERS

Germany c £17,000 p.a.
At least HNC level and good knowledge of PL/1 under MVS/IMS and experience of Time Sharing Options. Knowledge of IBM 3033 and IBM 370/180 required. German an advantage.

SYSTEMS ANALYST

Germany c £20,000 p.a.
Degree level plus wide knowledge of Systems Analysis and PL/1, DB/DC, experience of IBM 370/180 range. IBM 3033 also an advantage. Good understanding of MVS/OPS systems, TSO and IMS. Good working knowledge of German required.

Please telephone, quoting appropriate reference

ORS Services
Recruitment Consultants, 37 Colindale Avenue, London, NW9 4AL
Tel. 01-439 9451

**£10K +
APPOINTMENTS**

If you require personnel who command salaries of £10k and over take the opportunity of advertising in this special **REGULAR FEATURE**.

For further details contact:
Mark Williams
on 01-261 8028
or
Mark Pulver
on 01-261 8174

We didn't get where we are today by setting low sales targets!



—but many of our sales exec's still manage to earn over £16,000 p.a. (Plus a Car)

Systeme Limited make 'real-time' minicomputers—the ones that are now revolutionising office and business systems.

The company started up just seven years ago. Today it employs getting on for 750 people worldwide. And the computer industry, as you know, isn't very labour intensive!

But even though demand is higher than it's ever been—and is increasing madly—we still have to sell our wares in a competitive environment and need motivated, experienced sales

executives to take care of the sharp end of the operation.

The People
Ideally the people we require will already have experience selling computers but we would also like to hear from those with sound experience selling the more sophisticated lines of office equipment.

The Location
Based in one of our main regional centres—London, Leeds, Manchester, Bristol, Northampton and Nottingham.

For details write or phone Ron Napier at:
Syatima Limited, Concourse Computer Centre, 432 Dewsbury Road, Leeds LS11 7DF
Tel: (0532) 707411

Making Computers make sense.

SYSTEME

BRISTOL
BIRMINGHAM
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NORTHAMPTON
NOTTINGHAM

DUBLIN
HELSINKI
PARIS
ROME
TORONTO
ZURICH

For details of forthcoming Features in the North and Scotland

Northern Recruitment Feature, September 27th

Scottish Recruitment Feature, October 25th

Contact Owen Kelly on 061-832 4211

ANALYSTS

Surrey Starting Salary £5000 - £8000
Can you ensure users get the systems they need?

In every installation the real test of a successful system is whether it meets the user needs. In our client's installation a small quality assurance group ensures that systems do meet the user requirements and that control and procedures exist which allow the systems to operate efficiently and effectively.

As an Analyst within this group you would be looking at systems from a user standpoint. It will be necessary to consider the results achieved by the systems and the methods used. Extensive test databases have been developed as an aid in this end Analysts will build test packages to allow thorough investigation. The successful applicants will have full responsibility for specific applications areas.

Our client is the research and development centre for one of the world's largest banks. The centre supports branches in 20 locations throughout Europe from communications networks using Honeywell mini computers and IBM mainframes. Major equipment reviews are underway and the Analysts in the quality assurance group will be responsible for ensuring that the introduction of latest generation hardware enhances the service to users.

Applicants should have proven analytical skills developed in a commercial or financial environment. The ability to assess projects in a short timescale whilst retaining an 'eye for detail' is very important, as is the personality to convince systems personnel on specific approaches to problem areas.

Sterling salary will be negotiable between £5,000 and £8,000 and the significant benefits associated with major financial organisations apply.

Positions open to male & female applicants, please telephone (24 hour service) for initial discussion or write to address below QUOTE REF CW 192/94

COMPUTER AND PROFESSIONAL PERSONNEL CONSULTANTS **CAPP ASSOCIATES** LONDON AND MANCHESTER **01-686 9693** A.M.P. HOUSE, DINGWALL RD., CHRYSDON, CH9 2AU

PROGRAMMERS

Central London Up to £7000

This is an opportunity to gain large system experience in a well-organised major mainframe installation using advanced techniques, particularly DATABASE and ON-LINE.

We are recruiting for clients, who offer interesting and often challenging work, with good training facilities, to career-conscious programmers. Salaries and prospects are good, and there is a substantial volume of development work on hand.

You should have a good educational background ('A' level or degree) and from 1½ to 3 or 4 years' practical programming experience. This could be on any machine using any language. COBOL knowledge would be valuable, but if you have used another language our clients will retrain you.

Please ring us for a confidential discussion, quoting ref. 686, or leave a message on our answering machine after hours and we'll contact you.

EDP SYSTEMS 01.637 5796
52-53 Margaret St. London W1N 7FF

**LOTHIAN REGIONAL COUNCIL**

Computer Systems Development
EDINBURGH

Development staff are required in the TECHNICAL APPLICATIONS GROUP to work on a range of engineering and non-financial projects to be implemented on the Region's ICL 2970/2060 configuration.

Candidates are invited to apply for the following posts:

Project Designer £6942-£7512

Senior Systems Analyst/Programmer £5382-£6636

These scales will be reviewed on January 1st, 1980, as a result of a comparability study currently being undertaken.

Candidates must have a proven record of achievement in systems design and programming, using COBOL and FORTRAN. Starting salaries will depend on individual qualifications and experience.

Assistance may be provided with relocation, where appropriate.

Please write or phone for an application form:

DEVELOPMENT MANAGER
LOTHIAN REGIONAL COUNCIL
FINANCE DEPARTMENT
COMPUTER DIVISION
WARRISTON'S CLOSE (323 HIGH STREET) Tel: 031-229 8292
EDINBURGH Ext. 2321

**CITY OF LONDON
SENIOR
TECHNICAL
PROGRAMMERS**
Salaries up to £8,000

Lloyd's Register requires several technical programmers, at Senior and Junior levels, offering an interesting and demanding career.

A wide range of hardware is employed and includes Desktops, Minis and RJE Mainframes, FORTRAN, BASIC, APL and Assembler are used and training would be given where necessary. You would be encouraged to work closely with engineering staff to design and produce programs and systems for shipbuilding and offshore applications.

Please telephone 709 9188 ext 832 or write for an application form to The Recruitment and Staff Relations Officer marking the envelope Confidential.
LYOYD'S REGISTER
71 Fenchurch Street
London EC3M 4BS

DEPUTY COMPUTER MANAGER

ODEX LIMITED, one of the leading companies engaged in the marketing of industrial hygiene and laundry products wish to appoint a Deputy Computer Manager (male or female) to assist in the running and development of a new ICL 2903/40 installation. This is an exciting opportunity for someone ideally aged 25-30 with experience of ICL computers to make a real contribution towards the development of computer applications throughout the Company.

Prospects for promotion, both within the Company and throughout the wider Paterson Zochonis Group, of which Odex is a subsidiary, are excellent for the right person.

Attractive salary and fringe benefits are offered and assistance with relocation costs if necessary.

Please apply, in writing, to:
Mrs. B. James, Personnel Officer
ODEX LIMITED, Cranwall Road, Ellamers Port
South Wirral L65 4DP

MIDLANDS VACANCIES NORTH WEST

WALSALL SENIOR SYSTEMS ANALYST c £7000
To act as a project leader for in-house development work. Experience of stock control and/or accounting systems an advantage.

WEST BROMWICH PROGRAMMERS/SENIOR PROGRAMMERS to £5200 + bonus
This client urgently seeks good quality programmers who have experience in COBOL.

BIRMINGHAM PROGRAMMERS to £7500
This client in central Birmingham requires experienced COBOL programmers to work on new commercial applications. Knowledge of ICL 1900/2950 an advantage.

BIRMINGHAM SYSTEMS ANALYSTS to £7500
This client, a large manufacturer requires analysts at all levels to bring a large team up to strength. Experience of production control would be an advantage.

LEICESTER ANALYST/PROGRAMMERS to £6500
Analyst programmers are required to develop real time systems on PDP 11's under RSX 11M, knowledge of minis and micros an advantage.

COVENTRY SYSTEMS ANALYSTS to £7500 + paid overtime
Experienced systems analysts are required by this large manufacturing company to assist in the development of a variety of new projects.

LEICESTER PROGRAMMERS to £6800
This client requires good programmers for a distributed network of machines controlling various functions. Knowledge of ICL and/or IBM equipment an advantage.

BIRMINGHAM PROGRAMMER/ANALYSTS to £7250 + car scheme
This client, an expanding turnkey operation needs people immediately at all levels who have experience in a commercial, COBOL environment.

LEICESTER ANALYST/PROGRAMMER £ negotiable
An analyst programmer is required to work on payroll and ledger systems. Experience of NCR Century and/or Criterion an advantage.

NOTTINGHAM SENIOR PROGRAMMERS £ negotiable
Experienced PL/I programmers are required who preferably have a knowledge of VSAM and/or CICS to work on commercial systems. The salary will be attractive to the right people.

LOUGHBOROUGH SYSTEMS ANALYST c £8000
A systems analyst is needed by this client to perform all aspects of systems analysis for new on-line applications. A good educational background will be an advantage.

DAVENTRY PROGRAMMERS to £7500
Programmers with a minimum of 2 years experience using PDP 11's, RSX 11M and CORAL 88 are required to work on real-time and process control equipment. Graduates preferred.

BIRMINGHAM SENIOR PROGRAMMERS to £8000
Experienced software house needs experienced COBOL commercial programmers. Knowledge of NCR 8250 or TI990/10 an advantage.

Phone PETER GILBERT on LEEDS (0532) 444185 (daytime) or on BRADFORD (0274) 834074 (evenings and weekends) or write with brief details (no stamp required) to Lorien Computer Services, FREEPOST, Leeds LS7 3YY.

LIVERPOOL SYSTEMS ANALYSTS c £6800
Our client is seeking a number of staff to cover major developments with in-depth analysis and design experience. Excellent benefits and long term prospects available.

LIVERPOOL COBOL PROGRAMMER c £4200
Our client, with a medium sized in-house installation, is seeking a COBOL programmer with over 12 months experience on IBM, UNIVAC or Honeywell hardware to work on large developments.

LIVERPOOL TECHNICAL ANALYST c £7000
A young, well educated Analyst, with experience in TP systems, and some FEP software background is urgently sought by our client. Large, technically advanced installation.

PRESTON COBOL PROGRAMMERS to £5000 + Bonus
Large IBM installation is seeking experienced COBOL programmers with experience ideally in a manufacturing environment. Outstanding career prospects. Good bonus scheme.

PRESTON SENIOR ANALYSTS to £7000 + Bonus
Multi-hardware installation requires a number of Analysts with over 3 years in-depth analysis/design experience. IBM background an advantage but not essential. Other excellent benefits available.

MANCHESTER SYSTEMS ANALYST c £6800
Our client operates large IBM hardware, and is seeking an Analyst with a financial/accountancy background, and some Data-base experience.

ROSENDALE BASIC + c £5300
Our client requires experienced Programmers, and Analysts/Programmers with BASIC + gained on PDP hardware. New expanding installation.

MERSEYSIDE MINI TECHNICAL SPECIALIST c £7500 + Bonus
Major UK organisation requires a Principal Technical Specialist to manage small team engaged in technical software support of extensive real-time mini system. Experience in mini-controlled TP or Distributed Processing techniques required.

NORTH MANCHESTER COBOL PROGRAMMERS to £5400
Large, ICL installation is seeking experienced COBOL programmers with either 1800 or New Range experience to join an in-line 2900 development team. Very good career prospects.

NORTH MANCHESTER SENIOR ANALYST to £7000 + Bonus
A Senior Analyst is required to head small team in development of on-line menu processing systems. A programming background, ideally COBOL, is an advantage but not essential.

PRESTON BUSINESS ANALYSTS c £6500
Our client is seeking two experienced Analysts who combine some technical expertise with sound business problem solving talents.

MERSEYSIDE IBM ANALYST/PROGRAMMERS c £6000 + Bonus
Major IBM user requires either existing Analyst/Programmer or ambitious COBOL programmer who are seeking Analysts involvement. Bonus scheme and other benefits.

*** URGENT - CONTRACTS - URGENT ***
SYSTEMS ANALYSTS - £250 p.w.
LONG TERM CONTRACT, MERSEYSIDE.

Phone STEVE SYKES on LEEDS (0532) 444185 (daytime) or on LEEDS (0532) 882417 (evenings and weekends) or write with brief details (no stamp required) to Lorien Computer Services, FREEPOST, Leeds LS7 3YY.

**AVON UNIVERSITIES
COMPUTER CENTRE
AT UNIVERSITY OF BRISTOL**

Applicants are invited for a post of

Senior Systems Programmer

to work on the Honeywell Level 88 OPS computer which operates using the MULTICS interactive system. This computer is the first of its kind in Europe and will be providing a full user service, to the Universities in the South West, in October. The successful applicant will be required to co-ordinate the installation and maintenance of new versions of the operating system, compilers and applications packages. He/she will co-operate with all five Universities in the South-West Network in collecting software changes, in an orderly manner, and will participate in software development.

A degree in an appropriate discipline is required and systems experience would be an advantage.

The appointment will be made on the Grade II (Other Related) scale with a salary in the range £9,880 to £9,457 per annum (scale subject to revision on 1 October, 1979).

Applications, together with the names of three referees, should be sent by 31 August to the Registrar and Secretary, University of Bristol, Senate House, Bristol BS8 1TH, from whom further particulars may be obtained.

DOWELL Schlumberger

International Oilfield Services Company

PROGRAMMER

for the PARIS HQ
THE JOB: Researching, writing, and documenting short scientific application programs for use in well treatment design, well data analysis, and drilling operation planning. The machines are PDP 1103 mini-computer and HP 87 with time sharing.

THE CANDIDATE: Should have B.S. degree (or equivalent) in computing/mathematics with computing and be familiar with HPL, Fortran and Basic languages. Experience in the oil industry would be an advantage.

Excellent salary and benefits and generous relocation allowance.

Please write with detailed C.V. to:
The Recruitment Co-ordinator
Dowell Schlumberger
8 rue Bellini
75792 Paris Cedex 16
Initial interviews will be held in London.

Analyst Programmers

A CHANCE TO MAKE
YOUR MARK

Huntingdon Research Centre is the leading independent research establishment in Europe, specialising in the safety evaluation of pharmaceuticals, pesticides and general industrial and environmental chemicals. Continued rapid expansion has resulted in the need to upgrade our present ICL 2904 to the 2950 range in March 1980. In addition, the 2950 will be linked to a network of distributed mini/micros for the remote capture of laboratory data. This development creates the following new, permanent positions:-

SENIOR ANALYST PROGRAMMERS
c £6000

Formally trained Systems Analyst, educated to degree level with at least four years' programming experience in ALGOL and/or COBOL and/or FORTRAN.

ANALYST PROGRAMMERS
c £5000

Educated preferably to degree level with at least three years' experience of programming in ALGOL and/or COBOL. Formal training in Systems Analysis would be an advantage.

PROGRAMMERS
negotiable

Educated to HND/degree level with knowledge of ALGOL and/or COBOL. Starting salary dependent on experience.

An attractive range of benefits is offered, including a generous pension scheme and relocation assistance where required.

Please write, giving brief history of career to date to: Mr. J. West,
Personnel Director,
Huntingdon Research Centre,
Huntingdon, Cambs. PE18 6ES.

Huntingdon Research Centre

LORIE COMPUTER SERVICES
Recruitment Consultants

OCS House,
Servia Road, Leeds LS7 1NJ
Telephone 0532 444185
(24 hour Telephone service)

**Computer Professionals for Major Retail Group**

Senior Systems Analysts (2) c£8000 **Project Programmer c£7000**

Our clients, a leading retail organisation in Scotland, are about to embark on a major systems development at their head office in Glasgow.

Over the past years, the company's record of growth has been impressive, and this has been achieved through hard work, innovation and a determined effort to alleviate any problems standing in the path of increased growth.

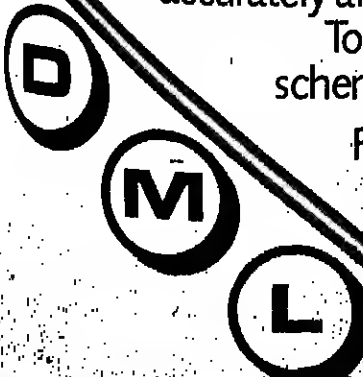
With this in mind the company has decided to install new IBM hardware and recruit a team of computer professionals with the expressed objective of implementing Advanced Business Systems, especially in the Accounting/Merchandising field.

The Senior Systems Analysts will effectively be in control of their own major projects and should therefore have considerable experience of systems implementation, preferably in a retail/service industry. The Project Programmer should have at least 4 years' commercial programming experience (COBOL) and be used to working accurately and efficiently with a minimum of supervision.

To the right candidates the company offer excellent career and financial prospects plus a profit-share scheme, and other normal large company benefits.

For more information, telephone Philip Bliss on 031-226 6674, or write, enclosing a detailed CV, quoting Reference CP/32/E, to DML Computer Personnel Services,
11 Charlotte Square, Edinburgh, EH2 4DR

LOCATION INTERVIEWS WILL BE HELD IN MAJOR CENTRES THROUGHOUT THE U.K.



031-226 6674

Recruitment



In Informatics

Manufacturing Systems Consultants Thames Valley

Potential earnings to £10K

An internationally renowned supplier of Data Base and Teleprocessing Management Systems has retained Logistix to identify and recruit Applied Systems Consultants. The Company has recently expanded its product line by the introduction of Manufacturing Application Software in U.S., English and Continental European markets. Systems Consultants are now required to act in a pre- and post-sales environment from its U.K. base in the Thames Valley. Suitable applicants must have current experience in a manufacturing environment. Ideally 'on-hands' experience should amount to a minimum of 5 years. It is anticipated that candidates will be aged 25 years or more. Application areas involve Materials Requirements

Planning, Purchasing Control, Capacity Requirements Planning and Work-in-Progress Activity Reporting. The scope of activity mostly within the U.K. but also Continental Europe will be central to the most demanding career-minded individual. The above average earnings reflect the prominence which our client has placed in finding high calibre professionals. The opportunities for the ambitious are endless within the Group's diverse marketing and geographical activities. Interviews will be held in our clients' U.K. Head-Quarters in late August/early September for appointments to be taken up in early to mid October. Ref: A/23/08

Message Switching & Communications Bavaria

Salary to £17K

A prestige German client wishes to expand and establish a small specialist project team working in the areas of Data Communications and Packet/Message Switching. This is a very rare opportunity to enhance your career by extending your social horizons and developing State-of-the-Art D.P. technology whilst having the benefit of living in a country with an extensive range of leisure and pastime activities. Successful candidates will be either graduates (Computer Science, Maths, Physics, Chemistry) or

have in-depth knowledge in advanced real time applications. You will probably be employed as Systems Designer or Software Programmer in a Mini-Computer environment with extensive Assembler experience. Those candidates who have a genuine desire to relocate permanently to West Germany are especially welcome and particularly those who have a basic (or fluent) knowledge of the language. Ref: B/23/08

Systems & Programming Consultants London

Salary: £7-14K

Our client is a leading International Programming and Systems House having bases in Central London and The City with an urgent requirement for project team specialists. Well above average salaries will be paid to ambitious, presentable candidates who enjoy involvement with customers in developing their systems and solving their business problems. Successful candidates will probably be graduates with a minimum of two years programming experience on any commercial machine whilst know-

ledge of both high-level and low-level languages will be a distinct advantage. If you have designed at least one complete on-line system or have had project management responsibility, then of course you would be considered for a more senior position within the organisation. Other benefits include annual profit-sharing, non-contributory pension scheme, life assurance, BUPA membership and a Share Purchase Scheme. Ref: C/23/08

IMS Specialists EEC

Salary: £12-16K

One of the World's foremost Software Specialist Groups has retained Logistix to identify top-calibre IMS Programmers and Designers up to Team Leader level and beyond for permanent positions in Holland, Belgium and Germany. Suitable applicants must have current IMS/DB-DC applications or systems programming experience using COBOL, PL/I or BAL II. Alternatively, you have programmed in Assembler under DOS/VS then your experience could also be relevant provided that the applications were developed for an on-line real-time system. Candidates

who have recent or current exposure to the software of an independent Supplier such as SHADOW, TOTAL, ADABAS or IMS will also be considered particularly if the environment utilised large IBM mainframes. The scope of projects and the prestige of working with this acclaimed Market Leader represent an excellent opportunity for career-minded individuals since there will be active encouragement for employees to relocate and work on other European projects. Ref: D/23/08

Business Consultant City of London

Salary: £9-5K + Package

Your Banking Involvement (Foreign Exchange, Euro-bond Portfolio Management/Investment) will earn you excellent financial and career rewards with this 'blue chip' Financial Institution operating in The Square Mile. It is a definite plus point to have been associated with mini-computers (for example PDP 11, Hewlett Packard 3000 or

ICI 2903-4) within a distributed processing environment. The successful candidate will lead a project team of 6 comprising Systems/Business Analysts and Programmers developing and implementing new systems for both The City offices and its European counterparts. Interviews are scheduled for early September. Ref: E/23/08

Logistix, Freepost 32, London W1E 3YZ

360 Oxford St.
London W1N 9HALicensed by D.O.E.
Licence No. SF (A)2887

01-491 4636



Telex: 28800

ANALYST/ PROGRAMMER



engineering applications

An Analyst/Programmer is required to work as a member of a small Computer Group in BP's Head Office Engineering Department.

The Computer Group acts as a central co-ordinating unit for all computer applications in the department. Current applications involve the use of the company's UNIVAC 1100 main-frame, a Hewlett Packard 1000 mini-computer and various computer bureaux.

The successful applicant will be involved in providing a programming and advice service for Engineers covering a range of disciplines, and maintaining a suite of administrative programs.

He/she will also assist in training Engineers to use computing facilities and maintaining a register of Engineering programs.

Candidates must have a degree in Engineering, Science, Mathematics or Computer Science and a minimum of 3 years' experience writing computer programs of a technical nature preferably in FORTRAN.

A knowledge of UNIVAC systems would be an advantage.

For applicants with no formal Engineering training familiarity with basic Engineering concepts is essential.

Excellent salary and conditions of employment offered. Please write with brief details of age, qualifications and experience, quoting reference FY587, to Sue Bartholomew, Central Recruitment, The British Petroleum Company Limited, Britannic House, Moor Lane, London EC2Y 9BU.

International Oil Exploration and Production

PROGRAMMER

Unionoil Company of Great Britain, a subsidiary of Union Oil Company of California, wishes to engage a Programmer for the Computer Services Department at the Sunbury-on-Thames Head Office. This position, in a recently established department, offers a unique opportunity for professional challenge and scope.

Initial responsibilities include commercial programming for accounting and management information reporting systems.

Candidates should have 'A' level qualifications and two to four years' experience with Cobol. Familiarity with Fortran or Basic would be an advantage.

This position offers an excellent salary and benefits package and interesting career opportunities with an international oil exploration and production company.

Additional benefits of this position will be the experience gained on our in-house computer, which currently controls an on-line and multiple site environment.

Interested persons should respond in writing to the address below. All responses will be held in strict confidence.

Administrative Services Department,
Unionoil Company of Great Britain,
32 Cadbury Road,
Sunbury-on-Thames,
Middlesex.
Telephone: Sunbury 85600.

UNIVERSITY
OF LIVERPOOLDepartment of Physics
**SENIOR
EXPERIMENTAL
OFFICER**
(Programmer)

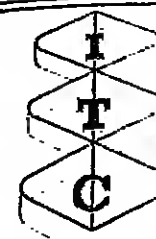
To assist Academic Staff engaged in research in High Energy Physics including the study of nuclear-antiproton interactions in the CERN Omega Spectrometer. Duties include: assisting with analysis of data, using the S.R.C. Rutherford Laboratory's IBM 360/195 computer. Good knowledge of Fortran essential. Some time will be spent at the CERN Laboratories in Geneva. Degree or equivalent essential and knowledge of physics and previous experience an advantage. Salary, according to age and experience, on the scale for Experimental Officers up to £8,108 p.a. of Senior Experimental Officers up to £7,145 p.a. Application forms available from The Registrar, The University, P.O. Box 147, Liverpool L69 3BX. Date Ref: R/1758/OW.

Microprocessor Engineer

BNF, a large international research and development organisation, is extending its exploitation of microprocessor controls in industry, including process monitoring and control, automatic safety checks, machine operating sequences and production control. A well qualified and experienced electronics engineer is required to join the team responsible for this work. Excellent pay and conditions, pleasant rural surroundings.

Write to S. D. Dalg, Secretary, BNF Metals Technology Centre, Grove Laboratories, Denchworth Road, Wantage, Oxon OX12 9JL quoting reference AC15 and stating salary required.

Grove Laboratories,
Denchworth Road, Wantage
Oxfordshire OX12 9JL

ENTERTAINMENT
AN ACC COMPANY

DATABASE OPERATOR LONDON W1

c£5,500

Our client offers this splendid opportunity to capitalise on your potential.

You will be the vital link between the users and the system. Where necessary training will be given.

Candidates should have: experience in input and output control, a willingness to take responsibility, and understanding of file structure and an interest in mathematics.

This is a responsible position within ITC and offers excellent career progression. For a discussion in complete confidence, please telephone us on extension 57, or write quoting Ref. 103.

INBUCON MANAGEMENT CONSULTANTS LIMITED
Computer Personnel
187 KNIGHTSBRIDGE, LONDON SW7. TEL: 01-584 6171

Senior Systems Analysts Systems Analysts

up to £7,500

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Anglo Overseas Transport Ltd., a member of the P & O Group is amongst the leaders in the International Freight Forwarding Business with special outlets for perishable goods, wine, and fashions. Our operations are controlled from our headquarters in London and cover 15 separate locations in the U.K.

Sophisticated business systems are vital to the success of an operation of this size and consequently we have a growing interest in computer applications. We therefore wish to recruit experienced analysts to be involved from the outset in the design and implementation of systems. Proposed applications include: Import & Export Forwarding; Custom Clearance; Groupage; Warehousing & Distribution and Management Information Systems. We currently have access to the P & O Group's IBM 370/148 but anticipate that any new system is likely to comprise a network of mini-computers/terminals linked to a central installation.

These are particularly challenging 'ground floor' opportunities calling for all round E.D.P. professionals. Candidates should have solid systems experience which should include responsibility for the implementation of at least one major system. Previous shipping or transportation experience would be an advantage. Although based in London the positions call for some travel in the U.K. and occasionally in Europe.

Applicants who would like to discuss these opportunities should phone: Inbucan Smalley - D.P. Managers at: Anglo Overseas Transport Ltd., 10 New Street, London EC2P 2LE. Tel: 01-254 7121.

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You'll earn good money, and regular reviews and appraisals mean you'll stay in front. And with the Group growing as fast as it is, there's always the prospect of promotion. There's a good range of benefits at our Cheshunt Head Office, just 38 minutes from Central London, like a subsidised restaurant and a lively local Country Club. Re-location expenses are paid where applicable. If you want your career to move ahead fast, now, contact Sue Horner, Personnel Officer, Tesco Stores Ltd., Delamare Road, Cheshunt, Herts. EN8 9SL. Tel: Waltham Cross 32222.

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We would stress that these are progressive positions with substantial benefits and career prospects.

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He/she should be a graduate and have had some years' experience of DEC hardware and be fully conversant with Basic Plus or Plus 2.

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Application form and job description available from the Regional Personnel Officer, Yorkshire Regional Health Authority, Park Parade, Harrogate HG1 5AH. Telephone 88081, Ext. 240. (Please quote reference number) Closing date: 10 September, 1979.

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Telephone or write immediately for application form enclosing curriculum vitae quoting reference number 1577/CW to: Appointments Department, BBC, London W1A 1AA. Telephone: 01-580 4468, Ext. 4819.

BBC

Computer Programmer / Operator

Salary: £4275-£5262

This vacancy arises from promotion of the previous postholder to a more senior position in the developing computer section, responsible for all the Council's data processing work on their ICL 2903 installation. Experience of local Government; ICL 2903 and COBOL is desirable for this position.

Housing may be available in approved areas. For further details and application forms contact the Personnel Section, Town Hall, Epsom, Surrey. Phone Epsom 26252 Ext. 336 or 337. Closes 7th September, 1979.

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It is an exciting project of the type that occurs most infrequently and one which is bound to broaden the experience of those who work on it. We believe that to allow someone to run the project effectively a good CICS design background combined with a COBOL knowledge would be necessary. Long term it is anticipated that the role would include a significant database design and administration content so any relevant experience would be valuable but is not essential. The role will be a full one covering user support, liaison with manufacturers and other technical staff.

Our client is an insurance broker, part of a major group, whose D.P. department is shortly to move into new purpose built offices. The location means that good quality low cost housing is available and relocation expenses will, of course, be paid. In this fast moving, dynamic, environment it has been shown that there are ample opportunities for career progression. Salary is negotiable to the above and significant benefits apply. To find out more telephone Capp Associates.

Positions open to male & female applicants, please telephone (24 hour service) for initial discussion or write to address below. QUOTE REF. CW167-9H

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COMPANY BACKGROUND: Our client is a long-established and successful agent in the Gulf area for many major Companies, including Burroughs Machines, Volvo and Caterpillar. As one of the largest organisations within the private sector in Kuwait, they offer secure employment and a most attractive remuneration package. This includes travel facilities which enable children to accompany them to spend holidays with their families.

A highly attractive dual processor Burroughs 1728 installation is operational. This equipment is currently used to handle parts inventory, with on-line data entry and enquiry facilities, and it is planned to develop new systems in the near future. As the Burroughs Agent in The Gulf, the Company has its own marketing and support division, separated organisationally from the DP Department.

The working environment is friendly and the current Chief Programmer is now, for personal reasons, reluctantly planning to return to the U.K.

RESPONSIBILITIES

To manage a programming section which currently comprises two Analysts/Programmers, two Programmers and some trainees. He will be responsible for all programming work and technical support within the installation.

REQUIRED PROFILE:

1. At least 6 years' programming, including good COBOL.
2. 2 years' experience of Burroughs medium range computers with discs or B1726 upwords.
3. Experience of supervising a programming team.

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IBM OS VS1	Operators	Essex	Indefinite	Ref. ME280
IBM ODS	Operators	Surrey	2 months	Ref. CM466
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Application forms to be returned by Friday 7th September, 1979, can be obtained from further particulars from The Personnel Officer, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA.

NORTH EAST LONDON POLYTECHNIC

APPLICATIONS PROJECTS LEADER (S01)

The Computer Centre, which runs an ICL 1904S under George 27, Maximus and a PRIME 550, requires an APPLICATIONS PROJECT LEADER. He/she will control a small team of programmers engaged in, and offering advice on, a wide range of areas of applications. Candidates should be educated to degree level and be well experienced. The successful candidate will be on a scale from £6042 to £12411 according to age, qualifications and experience. For further details and an application form, please contact the Personnel Officer, North East London Polytechnic, Ave House, 106-104 High Road, Chadwell Heath, Romford, Essex. Tel: 087 2321 (ask for Department S-01), quoting the reference number A165/79. Closing date: September 7, 1979.

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Head of Central Computer Service
To be responsible for the operation of central computer services for the Institute. A Graduate in Computer Science or related subject is required, with several years' experience in the operation of computers in the field of scientific research and the ability to lead and organise the group. The salary will depend on the qualifications and experience of the successful applicant. Various allowances are payable for personnel moving to the Grenoble area, including a repatriation allowance for non-French staff. Application for this post should be addressed to: Mr. Rimmer, Institute Lévy - Langevin, 188X Centre de Tr. 38042 Grenoble, Cedex, France.

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SYSTEMS PROGRAMMER
Hinckley, Leicestershire
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We require a Systems Programmer to join a small team providing software support for a Univac 1100 systems. The system is used in connection with control of the Natural Gas Transmission System and also provides some bureau services to British Gas Headquarters, primarily for engineering and planning applications. The post, based in Hinckley, Leicestershire, involves the maintenance and development of the Univac 1100 Operating System and other standard Univac and in-house software, and support to the Operations Section and to computer users. Applicants should ideally have two years' experience as a Systems Programmer using a low-level language, preferably on Univac 1100 systems, though experienced applications programmers or systems programmers on other computer ranges wishing to widen their experience would also be considered. Present salary (currently under review) is within the range £4833-£6237 plus current self-financing productivity payment and the benefits normally associated with a large progressive organisation. Housing costs in the East Midlands are among the lowest in the country. Hinckley is within easy reach both of pleasant countryside and by convenient Motorway access, the large city amenities of Leicester, Coventry and Birmingham. A contribution towards relocation expenses is payable in appropriate cases. If you would like further details before deciding whether to apply, please telephone Mr. Vic Banks in Hinckley (0455) 38181, extension 289 during normal working hours. To apply, please write giving full details of age, experience, qualifications and current salary, quoting reference PS/616401(705), to the Senior Personnel Officer (Hinckley), British Gas, 50 Brynston Street, London W1A 3AZ. Closing date for applications: 31st September, 1979.

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Programmer

Broadway Buildings, London SW1
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Thames Water

Writer for
Computer Weekly

A vacancy for a software writer has arisen on Computer Weekly, Britain's leading computer publication which is distributed to more than 80,000 computer personnel in the UK every week. The vacancy will, ideally, be filled by a person with experience of software development and programming and with the ability to write clearly and concisely about these subjects. The successful candidate will be required to maintain the high standards which have been achieved in covering the software scene in Computer Weekly and will be responsible for the Software File and Programmers News sections. The post would suit a person with programming experience who wishes to work in a job offering a wide view of the computer business. However, the post could also provide a stimulating introduction to the computer world for a computer science graduate. The salary is negotiable, depending on the successful candidate's qualifications and experience. The post is based in Weybridge, Surrey. Computer Weekly, IPC Electrical Electronics Press, Dorset House, Strand, London, WC2R 3EJ.

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2. Programming background in RPG and Cobol.
3. The ability to communicate at all levels of management.
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Extensive experience in computer techniques essential. Salary up to £8,000 commensurate with age, qualifications and responsibility of the position.

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G. £5,500

Expanding Insurance company (Essex/Herts. border) has a vacancy for a programmer with minimum one year's experience to work on Honeywell Mark 3 system using DMS2.

Excellent opportunity for progression to systems analyst position.

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60 Bartholomew Court, High Street
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A software house with several manufacturing clients is seeking people with knowledge of FORTRAN and other low level/high level languages to work on commercial projects to strict deadlines. VICTORIA

SENIOR ANALYST C. £7,500

An Analyst with at least three years' experience of analysis is required by a major American subsidiary to assist with conversion from ICL to IBM IBM COBOL programming experience would be a distinct advantage. WEST OF LONDON

SYSTEMS ANALYSTS £6,500-£7,500

Several of our clients are seeking Analysts with about three years' experience to work on commercial projects covering financial, manufacturing, production, etc. applications. Companies are based in CRAWLEY, NETHERLY, HODLEY, HAYWARDS HEATH, CANNING, ALDURH, HAYES & CROYDON

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As a successful consultancy in the permanent placement of Data Processing Personnel, we are seeking a comprehensive person to complement the operation of our service. Experience of recruitment would be helpful, but it is not essential as training will be given.

The successful applicant (ideally aged 25+) will be experienced in a variety of recruitment techniques and will be responsible for your own personnel together with the ability to be competitive for your own career development. We can offer a challenging and challenging opportunity to progress your career with a substantial salary increase.

So if you have a positive approach to our business operation (which includes client liaison, advertising and the recruitment/selection of Data Processing Personnel) together with the ability to be competitive for your own career development, we can offer a challenging and challenging opportunity to progress your career with a substantial salary increase.

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Tel: 01-628 2344 (24 hrs)

CAREER PROGRESSION
IN PROGRAMMING

Our client, part of an International Pharmaceutical Group, is engaged in the research, development, manufacturing and marketing of a wide range of medical and allied products.

The delivery of an IBM 4341 is fixed for October next year to replace their existing IBM 370/125. Major developments are underway currently in production planning and control systems utilising DL1 and CICS. A committed programme of development will commence early next year with fully integrated DB/OC facilities. Their current EDP team of 37 staff is planned to expand accordingly.

They currently require programmers or analyst programmers with good COBOL programming experience. Machine experience is unimportant. Training will be given in IBM assembler and CICS/DL1.

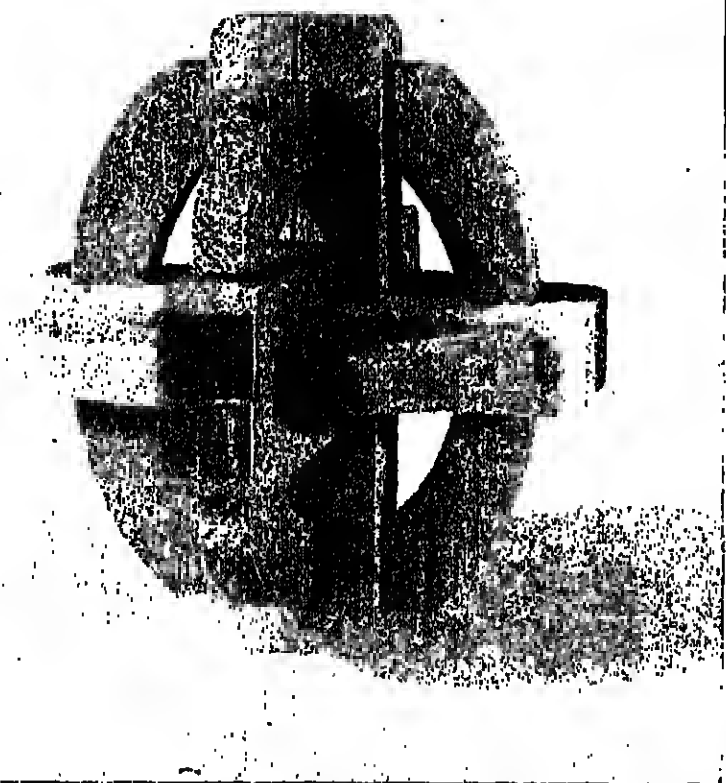
This is a superb company, offering free lunches (comparable to most West End restaurants) and mid-morning snacks, an excellent 6 months sick pay scheme together with long term incapacity benefits. Free BUPA and personal accident schemes with a contributory pension scheme. Salary negotiable up to £6,600 with a review before the end of the year.

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With
Systems
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Systems Designers Limited is a British Computer Systems Consultancy which, during the 10 years it has provided the industry with professional support, has established the highest expertise and credibility in the field of mini and micro based systems.

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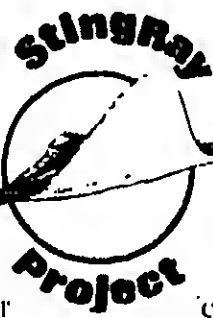
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THE SALES AND MARKETING BIT

'Product pioneering
should be
for someone else'

A READER recently wrote to me, having found himself in a most unusual and unsatisfactory company situation. His attitude towards his job and his company had been profoundly corrupted, and a sense of disillusionment and relative insecurity had been created.

If I give you an outline of the story, you will have a better appreciation of the man's feelings. During the course of new business prospecting, he unearthed a sales situation where negotiations were already in progress. He naturally asked the client about the requirement and soon discovered that his company did not have a product which matched the client's precise needs. (Whether these needs were, in fact, desire implanted in the buyer's mind by a competitive salesman was beside the point).

However, the salesman quickly recalled that during a recent visit to head office he had been told about a forthcoming new product which would offset the temporary competitive edge held by their principal business rivals and, as it happened, had a specification fitting exactly with the demands of his new prospect, Gent!

So he explained that he had some pre-release information on the particular new product, and as it would probably offer better cost/performance than the competitive product, would the client like a special preview if he could fix it? The client agreed to hold back on his other negotiation and make the visit, if it was possible.

The salesman quickly telephoned his sales manager, who apparently contacted the appropriate technical and marketing people and the visit was formally arranged. He then gave his prospect the good news and all was set for the big day.

On the day before the event, he was urgently summoned to his manager's office and told that the demonstration would have to be cancelled. Temporary feult, strikes, illness, whatever! What would be the revised date?

Never! There is no such product; there never was! The salesman was deeply shocked. But he realised he had to act quickly to salvage the situation with the client for the sake of his professional credibility of his company and himself. So he suggested to his manager that a cancellation call from a more senior person than himself might be better received by his client in the circumstances. The sales manager agreed and promptly made the telephone call.

Imagine the salesman's shock and dismay when the sales manager explained that the situation was entirely due to over-enthusiasm and speculation on the part of their representative.

When this salesman wrote to me (as many do

and I hope more will!) he was basically asking for my opinion on what he should do. I think the very act of writing told him what action he should take. My assistance really amounted to suggesting the alternatives.

I recount this story not to highlight an unethical company or an unscrupulous sales manager. If a salesman does not believe in his products, his company and his boss, he is a fool to stay. If a company is prepared to lie about its product capability in the hope of a subsequent "switched-sell", or a manager is willing to destroy the relationship between himself and his salesman (let alone the client) with inconsistency and insensitivity, they both fully deserve the disaster that will inevitably engulf them somewhere along the line.

The main value of this story for me is the opportunity to reiterate that warning advice "Product pioneering should be for someone else".

Too many salesmen and, indeed, companies are willing to rush into sales negotiations with products which are, in one way or another, unready for use, rather than bowing out gracefully. There seems to me to be no better way of getting egg on one's face than becoming involved with pre-release and other unproven (or even non-existent) products in a competitive situation.

New product developments in a sole-vendor situation is altogether different. However, competing with a prototype against an established product, no matter how much better its specification, usually results in a lot of sales effort for little return and in many cases a total loss of professional credibility, as with my correspondent.

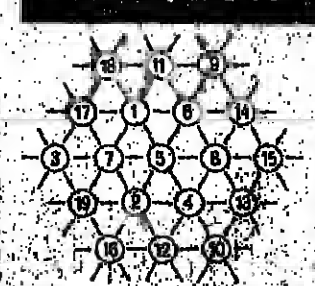
There is nothing wrong with the salesman using pre-release product information to delay a client decision, so long as he has first investigated the product in depth to ensure its existence, relevance, price and availability.

The salesman should always bear in mind that qualifying the sale applies just as much to his own company's capability as the buyer's requirement.

As I have said many times before, the salesman is employed to sell the product of his company, not available today, rather than those that might be available tomorrow.

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Puzzle Answer



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